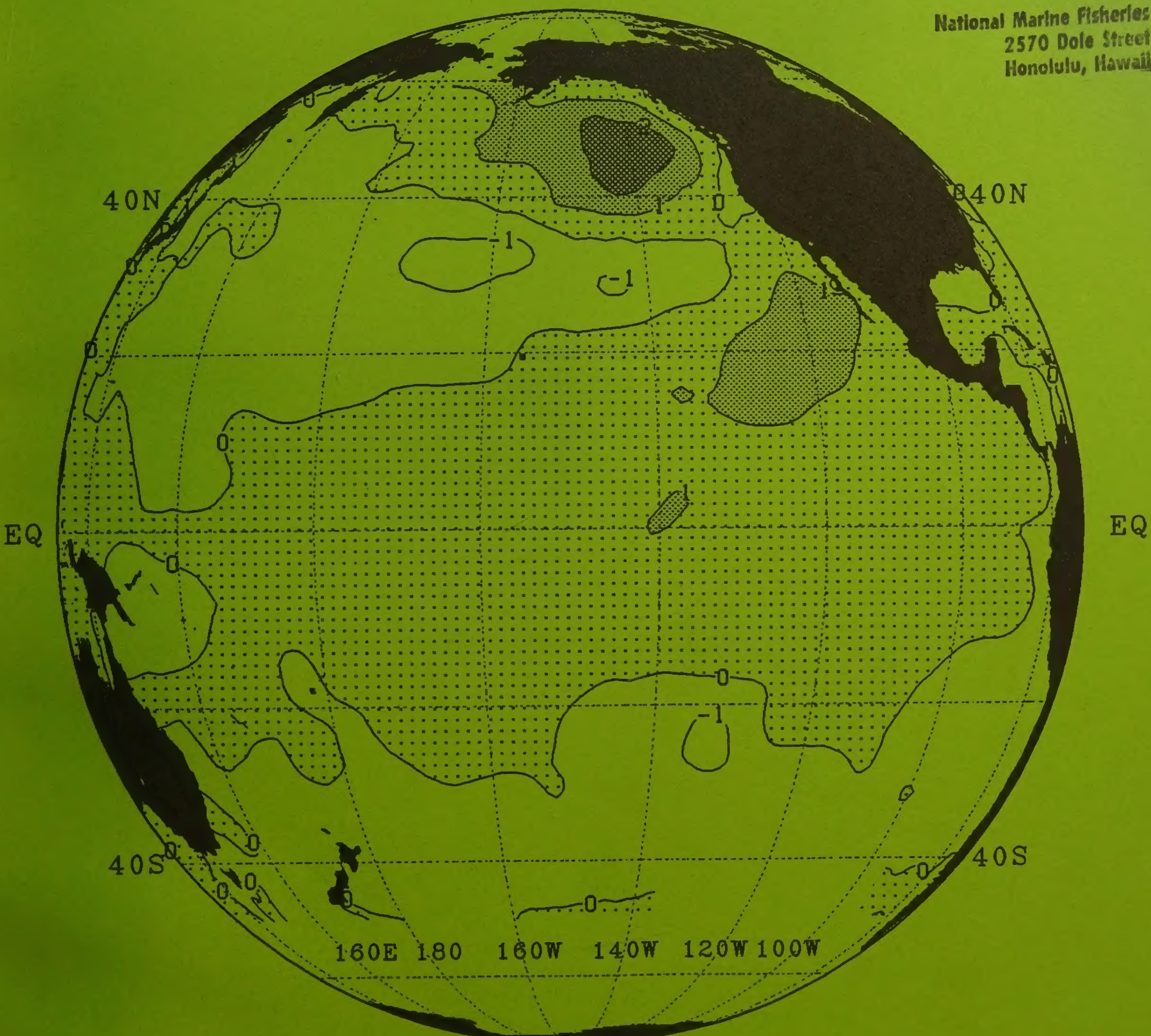
気象庁海洋月報

Monthly Ocean Report

November 1993 (No.11)



El Niño Monitoring Center
Japan Meteorological Agency

気象庁海洋気象部海洋課
エルニーニョ監視センター

平成5年11月

気象庁海洋月報は、気象庁海洋気象部海洋課エルニーニョ監視センターで
作成されています。本月報に関する問い合わせは、
〒100 東京都千代田区大手町 1-3-4 気象庁エルニーニョ監視センターまで。
電話 03-3212-8341(内線5134,5135) ファクシミリ 03-3211-3047

Monthly Ocean Report is prepared by the El Niño Monitoring Center(ENMC), Oceanographical Division, Marine Department, Japan Meteorological Agency.

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表紙は1993年11月の太平洋の月平均海面水温偏差図です。
陰影部は平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for November 1993 in the Pacific Ocean. Areas of positive anomalies are shaded.

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海況の特徴（1993年11月）

太平洋の海況

太平洋熱帯域の海面水温は、日付変更線付近から90°W付近にかけて平年より0.5℃以上高かった。西部でも平年より高めとなった。エルニーニョ監視海域（ 4°S～4°N, 150°W～90°W ）の海面水温は、+0.6℃だった（第１表、第１図、第６図）。

赤道域の20℃等温線の深度は中部では深まり、東部では浅くなる傾向が続いた(第９図)。

北太平洋の海面水温は、150°Ｅから130°Ｗにかけて30°Ｎに沿って平年より低い状態が続いた。カリフォルニア半島沖では１℃以上、アラスカ湾沖では２℃以上それぞれ平年より高かった（第１図）。

日本近海の海況

日本近海の海面水温は、本州東方及び日本海西部で平年より１℃以上低かったが、本州南方及び日本海の中部から北部にかけては正偏差に転じた（第17図）。

黒潮は、日本の南岸に沿ってほぼ直進し、房総半島沖を東に流れていた（第20図）。

本州東方の親潮系の冷水(深さ100ｍで５℃以下)の沿岸寄りの分枝は39.1°Ｎ・143.0°Ｅまで、沖合の分枝は39.8°Ｎ・146.6°Ｅまで、それぞれ達していた（第19図）。

熱帯の気象

中部熱帯太平洋では熱帯収束帯(ＩＴＣＺ)の対流活動が平年より活発になり、南太平洋収束帯(ＳＰＣＺ)もはっきりと現れた。10～20°Ｎ帯のフィリピン付近の海域では対流活動は平年よりやや不活発であった。先月まで見られた、下層対流圏における気圧が日付変更線の東で負偏差、西で正偏差という分布は、まだその傾向を残しているものの顕著ではなくなり、タヒチ、ダーウィンの海面気圧は平年並でＳＯＩは０.０となった（第１表、第12図、第13図）。

［気象庁長期予報課提供］

ＪＭＨのスケジュール変更のお知らせ

1994年２月１日の０３UTCより「気象庁第１気象無線模写放送（ＪＭＨ）」の内容と放送時間を大幅に変更します。海洋関係は放送時間を１１：１１～１１：４７(UTC)とし、北西太平洋の旬平均海面水温の偏差図（ＣＯＰＱ　２）を新たに加えます。表Ａに新しいスケジュール表を掲げます。

HIGHLIGHTS November 1993

Pacific

Sea surface temperatures (SSTs) in the tropical Pacific were more than 0.5°C above normal from the date line eastward to 90°W. SSTs in the western tropical Pacific turned to be above normal. The SST index for region B (refer to Fig.6) was +0.6°C (Table 1 and Figs.1, 6).

The depth of the 20°C isotherm continued to be deeper (shallower) than the previous months in the central (eastern) Pacific (Fig.9).

In the North Pacific Ocean, negative SST anomalies have remained from 150°E to 130°W along 30°N. SSTs off Baja California were 1°C above normal and off the Gulf of Alaska were 2°C above normal (Fig.1).

Seas adjacent to Japan

SSTs were more than 1°C below normal off east of Japan and in the western part of the Japan sea. SSTs off south of Honshu and from the central to the northern part of the Japan sea turned to be above normal (Fig.17).

The Kuroshio flowed straight along the south coast of Japan, then it flowed eastward off Boso Peninsula (Fig.20).

Coastal and off coastal branches of the Oyashio cold water (colder than 5°C at a depth of 100m) extended southward to 39.1°N, 143.0°E and 39.8°N, 146.6°E respectively (Fig.19).

Atmospheric conditions in the tropics

The enhanced intertropical convergence zone (ITCZ) was observed in the central Pacific Ocean and the southern Pacific convergence zone (SPCZ) was also evident. The tendency of the dipole pressure pattern in the lower troposphere, featuring negative anomalies in the west of the date line and positive ones in the east, still remained but weakened. As a result, SOI that had been persisted negative since September 1992 returned to normal (Table 1 and Figs.12, 13).

[prepared by the Long-range Forecast Division, JMA]

> The Japan Meteorological Agency will introduce new broadcasting schedule of the JMH (meteorological radio facsimile) transmission service, effective 03 UTC on 1 February, 1994. 10-day SST anomaly chart for the western Pacific (COPQ 2) is added on this schedule. Table A is the new schedule of the JMH.

J M H BROADCAST SCHEDULE

JAPAN METEOROLOGICAL AGENCY-TOKYO EFFECTIVE: 1ST FEB. 1994
3622.5, 7305, 9970, 13597, 18220, 23522.9 (KHz) F3C WHITE +400Hz BLACK -400Hz 5KW

TOT	HEADING	OBS	CONTENTS OF CHART
0000	FSAS07	12	SURFACE PRESSURE.PRECIPITATION PROG (72HR)
0020	FSAS09	12	SURFACE PRESSURE.PRECIPITATION PROG (96HR)
0040	FSAS12	12	SURFACE PRESSURE.PRECIPITATION PROG (120HR)
0103			TEST CHART
0110		00	MET SATELLITE PICTURE (GMS)
0129 1)			RADIO PREDICTION
0140	STPN		RETRANSMISSION OF 1100
	FIOH04/16		RETRANSMISSION OF 1100
0153 3)	WTFE04	00	TROPICAL CYCLONE FORECAST
0204	FOPN1		RETRANSMISSION OF 1111
	COPQ1		RETRANSMISSION OF 1111
	SOPQ		RETRANSMISSION OF 1111
	SOPN		RETRANSMISSION OF 1111
	COPA		RETRANSMISSION OF 1111
0223	FOPN2		RETRANSMISSION OF 1130
	COPQ2		RETRANSMISSION OF 1130
0240	MANAM		JMH BROADCAST SCHEDULE AND MANUAL AMENDMENTS
0320	ASAS	00	SURFACE ANAL
0350	AUAS70	00	700HPA HGT.TEMP.DEW POINT DEPRESSION
0410	ASAS	00	RETRANSMISSION OF 0320
0429 3)	WTFE02	03	TROPICAL CYCLONE FORECAST
0440	AWPN	00	WAVE ANAL
0459	AUAS50	00	500HPA HGT.TEMP
0518	AUAS85	00	850HPA HGT.TEMP.DEW POINT DEPRESSION
0537	AWJP	00	WAVE ANAL
0556	AUFE50	00	500HPA HGT.VORTICITY
	AXFE78	00	850HPA TEMP AND 700HPA VERTICAL P-VELOCITY
0607	FUFE502	00	500HPA HGT.VORTICITY PROG (24HR)
	FSFE02	00	SURFACE PRESSURE.PRECIPITATION PROG (24HR)
0618	FXFE572	00	500HPA TEMP.AND 700HPA
			DEW POINT DEPRESSION PROG (24HR)
	FXFE782	00	850HPA TEMP.WIND AND 700HPA VERTICAL
			P-VELOCITY PROG (24HR)
0629	FUFE503	00	500HPA HGT.VORTICITY PROG (36HR)
	FSFE03	00	SURFACE PRESSURE.PRECIPITATION PROG (36HR)
0640	FSAS	00	SURFACE PROG (24HR)
0659	FXFE573	00	500HPA TEMP.AND 700HPA
			DEW POINT DEPRESSION PROG (36HR)
	FXFE783	00	850HPA TEMP.WIND AND 700HPA VERTICAL
			P-VELOCITY PROG (36HR)
0710		06	MET SATELLITE PICTURE (GMS)
0729	FWPN	00	WAVE PROG (24HR)
0753 3)	WTFE04	06	TROPICAL CYCLONE FORECAST
0804	FWJP	00	WAVE PROG (24HR)
0823	FSAS04	00	SUFACE PRESSURE.PRECIPITATION PROG (48HR)
0842	FXAS504	00	500HPA HGT.VORTICITY PROG (48HR)
0920	ASAS	06	SURFACE ANAL
0950	FSAS07	00	SURFACE PRESSURE.PRECIPITATION PROG (72HR)
1010	ASAS	06	RETRANSMISSION OF 0920
1029 3)	WTFE02	09	TROPICAL CYCLONE FORECAST
1040	FXAS507	00	500HPA HGT.VORTICITY PROG (72HR)
1100 4)	STPN		SEA ICE CONDITION (SEASONAL)
2)	FIOH04/16		SEA ICE CONDITION PROG(48 AND 168HR.SEASONAL)
1111 5)	FOPN1		10-DAY SEA SURFACE TEMP.CURRENT PROG
6)	COPQ1		10-DAY SEA SURFACE TEMP
7)	SOPQ		SEA SURFACE CURRENT
8)	SOPN		SUBSURFACE TEMP(DEPTH OF 100M)
9)	COPA		10-DAY SEA SURFACE TEMP ANOMALY
1130 5)	FOPN2		10-DAY SEA SURFACE TEMP ANOMALY PROG
6)	COPQ2		10-DAY SEA SURFACE TEMP ANOMALY
1200	FUXT852	00	850HPA STREAM LINES PROG (24HR)
	FUXT854	00	850HPA STREAM LINES PROG (48HR)
1220	AUXT85	00	850HPA STREAM LINES
	AUXT20	00	200HPA STREAM LINES
1240	FUXT202	00	200HPA STREAM LINES PROG (24HR)
	FUXT204	00	200HPA STREAM LINES PROG (48HR)
1303			TEST CHART
1310		12	MET SATELLITE PICTURE (GMS)
1353 3)	WTFE04	12	TROPICAL CYCLONE FORECAST

TOT	HEADING	OBS	CONTENTS OF CHART
1520	ASAS	12	SURFACE ANAL
1550	AUAS70	12	700HPA HGT.TEMP.DEW POINT DEPRESSION
1610	ASAS	12	RETRANSMISSION OF 1520
1629 3)	WTFE02	15	TROPICAL CYCLONE FORECAST
1640	AUAS50	12	500HPA HGT.TEMP
1700	AUAS85	12	850HPA HGT.TEMP.DEW PINT DEPRESSION
1720	AUFE50	12	500HPA HGT.VORTICITY
	AXFE78	12	850HPA TEMP AND 700HPA VERTICAL P-VELOCITY
1731	FUFE502	12	500HPA HGT.VORTICITY PROG (24HR)
	FSFE02	12	SURFACE PRESSURE.PRECIPITATION PROG (24HR)
1742	FXFE572	12	500HPA TEMP. AND 700HPA
			DEW POINT DEPRESSION PROG (24HR)
	FXFE782	12	850HPA TEMP. WIND AND 700HPA VERTICAL
			P-VELOCITY PROG (24HR)
1753	FUFE503	12	500HPA HGT.VORTICITY PROG (36HR)
	FSFE03	12	SURFACE PRESSURE.PRECIPITATION PROG (36HR)
1804	FXFE573	12	500HPA TEMP. AND 700HPA
			DEW POINT DEPRESSION PROG (36HR)
	FXFE783	12	850HPA TEMP. WIND AND 700HPA VERTICAL
			P-VELOCITY PROG (36HR)
1910		18	MET SATELLITE PICTURE (GMS)
1930 3)	AWJP	12	WAVE ANAL
1953 3)	WTFE04	18	TROPICAL CYCLONE FORECAST
2004	FSAS04	12	SURFACE PRESSURE.PRECIPITATION PROG (48HR)
2023	FXAS504	12	500HPA HGT.VORTICITY PROG (48HR)
2042	FXAS784	12	850HPA TEMP. WIND AND 700HPA VERTICAL
			P-VELOCITY PROG (48HR)
2101 3)	FWJP	12	WAVE PROG (24HR)
2120	ASAS	18	SURFACE ANAL
2150	FXAS507	12	500HPA HGT.VORTICITY PROG (72HR)
2210	ASAS	18	RETRANSMISSION OF 2120
2229 3)	WTFE02	21	TROPICAL CYCLONE FORECAST
2240	FXAS787	12	850HPA TEMP. WIND AND 700HPA
			VERTICAL P-VELOCITY PROG (72HR)
2300	FUXT852	12	850HPA STREAM LINES PROG (24HR)
	FUXT854	12	850HPA STREAM LINES PROG (48HR)
2320	AUXT85	12	850HPA STREAM LINES
	AUXT20	12	200HPA STREAM LINES
2340	FUXT202	12	200HPA STREAM LINES PROG (24HR)
	FUXT204	12	200HPA STREAM LINES PROG (48HR)

1) ON 20TH AND 21ST.
2) EVERY WEDNESDAY AND SATURDAY.
3) IN CASE OF TROPICAL CYCLONE
4) EVERY TUESDAY AND FRIDAY.
5) ON 9TH.19TH AND 29TH (ON 28TH FEB. IF THE YEAR IS NOT A LEAP YEAR).
6) ON 2ND.12TH AND 22ND.
7) ON 6TH.10TH.16TH.20TH.26TH AND 30TH (ON 1ST MARCH INSTEAD OF 28TH FEB.).
8) ON 7TH.17TH AND 27TH.
9) ON 4TH.14TH AND 24TH.

表 A JMHのスケジュール変更（1994年2月1日の03UTCから）

Table A Amendment of JMH Schedule (From 03UTC 1 Feb. 1994)

Date		1992							1993									
		JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Pacific Sea Surface Temperature (℃)																			
D	(14N~ Eq.)	29.4	29.1	29.1	29.2	29.5	29.0	28.7	28.0	28.0	28.2	28.6	28.8	29.2	29.1	28.9	29.1	29.1	29.5
	(130E~150E)	+0.1	-0.1	0.0	0.0	+0.2	-0.2	-0.2	-0.5	-0.3	-0.2	-0.2	-0.3	-0.1	-0.1	-0.2	-0.1	-0.2	+0.3
A	(4N~ 4S)	29.2	29.2	29.1	28.8	28.8	28.7	28.8	28.5	28.4	28.4	28.7	29.0	29.1	29.1	28.8	29.1	28.8	28.9
	(160E~150W)	+0.7	+0.7	+0.7	+0.5	+0.4	+0.3	+0.6	+0.5	+0.4	+0.3	+0.5	+0.5	+0.6	+0.6	+0.4	+0.8	+0.4	+0.5
B	(4N~ 4S)	26.9	25.6	24.6	24.5	24.6	24.7	25.0	25.5	26.6	27.4	28.1	28.0	27.0	25.8	24.9	24.8	25.0	25.2
	(150W~ 90W)	+0.8	+0.4	0.0	-0.1	0.0	+0.1	+0.1	+0.1	+0.4	+0.5	+1.0	+1.4	+0.9	+0.6	+0.3	+0.2	+0.4	+0.6
C	(Eq.~ 10S)	23.7	21.6	20.5	20.2	20.8	21.2	22.5	24.3	26.1	27.0	26.4	25.2	23.3	22.1	21.0	20.8	21.3	21.5
	(90W~ 80W)	+1.0	0.0	-0.1	-0.1	+0.1	-0.3	-0.1	0.0	+0.4	+1.1	+1.3	+1.3	+0.6	+0.5	+0.4	+0.5	+0.6	0.0
Pacific Sea Level Anomaly (cm)																			
YAP	(10N,138E)	5	-2	-3	2	9	6	8	7	9	11	1	-2	-2	1	-1	5	8	
RABAUL	(4S,152E)	-18	-13	-11	-10	-6	-6	-6	-9	-10	-14	-12	-13	-11	-8	-9	-7	-6	
MAJURO	(7N,171E)	4	7	7	11	15	6	4	-1	-4	-4	-8	-1	6	5	3	1	5	
TARAWA	(1N,173E)	-2	2	3	5	2	2	4	1	7	10	3	5	6	4	7	4	6	
CHRISTMAS	(2N,157W)	-3	-2	-7	-4	-3	4	1	5	4	8	6	5	-1	-2	-1	-1	-2	
SANTA CRUZ	(1S, 90W)	-4	-1	-1	-3	-1	-1	-2	4	8	7	7	10	4	0	0	1	3	

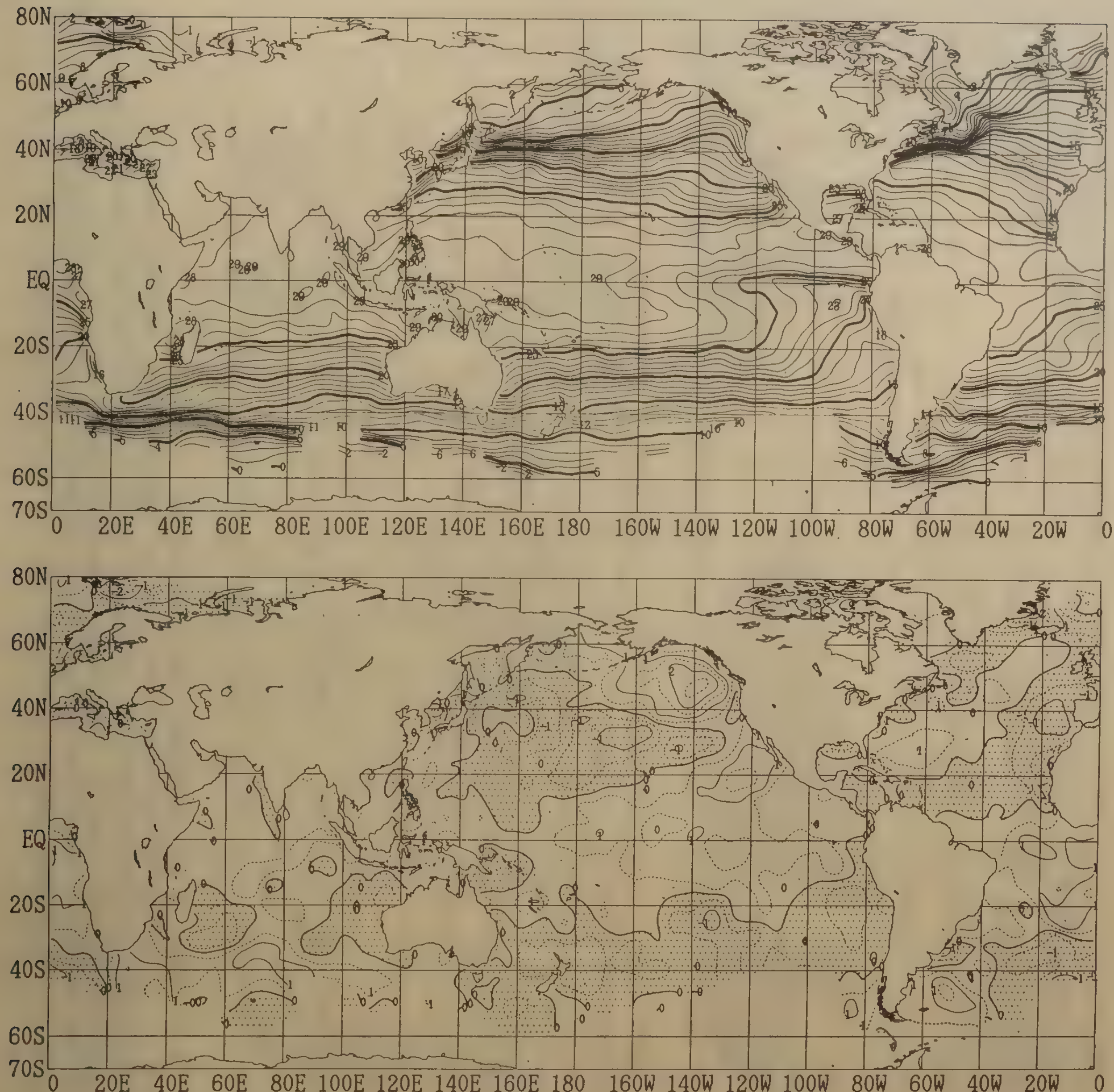
第１表 (a) エルニーニョ監視指数

Table 1(a) El Niño monitoring indices. Data sources are the El Niño Monitoring Center, JMA for the sea surface temperature and the SOC of ISLP-PAC, Dept. of Oceanography, University of Hawaii for the sea level anomaly.

Date	1992 JUN	JUL	AUG	SEP	OCT	NOV	DEC	1993 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Southern Oscillation Index (Unit of pressure anomalies at Tahiti and Darwin : hPa)																		
SOI (TAHITI-DARWIN)	-1.3	-0.5	0.1	-0.0	-2.0	-0.6	-0.5	-0.8	-0.6	-0.5	-1.9	-0.8	-1.6	-1.0	-1.5	-0.7	-1.4	-0.0
TAHITI (17.5S , 150W)	-1.6	0.7	0.1	-0.8	-2.3	-0.5	-1.1	-1.4	-1.9	1.0	-0.7	0.2	-0.6	-1.1	0.0	-0.0	-0.9	0.1
DARWIN (12.5S , 131E)	-0.1	1.6	-0.1	-0.8	0.5	0.6	-0.2	0.4	-0.3	2.4	1.9	1.4	1.3	0.4	2.2	1.4	1.3	0.1
High Cloud Amount Index																		
HCLD-PH (20N ~ 10N) (110E ~ 140E)	-1.1	-0.3	0.2	-1.6	0.9	-1.7	-1.4	-1.0	-0.3	-0.4	-0.5	-2.2	-1.9	-0.5	-0.4	0.7	-0.1	-0.6
HCLD-MC (5N ~ 5S) (110E ~ 135E)	-0.7	-0.5	-1.2	-0.4	0.6	-0.8	0.4	-1.1	-0.9	-1.1	0.3	-1.4	-2.1	-1.0	-1.4	-1.0	-1.5	-0.8
HCLD-DL (5N ~ 5S) (170E ~ 170W)	1.7	0.0	0.1	-0.6	-0.1	1.3	1.2	0.8	1.4	0.5	2.8	2.0	1.8	1.3	0.3	1.8	1.7	-0.2
Equatorial Zonal Wind Index																		
U200-IN (5N ~ 5S) (80E ~ 100E)	0.2	-0.4	-0.4	-1.1	-1.4	0.1	0.1	-0.1	0.8	-0.9	-0.3	0.5	0.4	-0.3	-0.5	-2.1	-0.7	-0.8
U200-CP (5N ~ 5S) (180 ~ 125W)	-0.1	0.0	1.1	-0.4	0.7	-0.2	0.7	-0.3	-0.3	0.0	-0.6	-1.3	-0.0	1.1	0.3	-0.3	0.0	-0.5
U850-WP (5N ~ 5S) (160E ~ 175W)	0.1	0.1	-0.4	0.2	0.2	0.4	0.8	0.3	0.9	0.3	0.8	0.5	0.3	0.1	0.7	-0.0	0.9	-0.4
U850-CP (5N ~ 5S) (170W ~ 135W)	0.1	0.3	-0.7	0.5	-0.4	0.9	0.2	0.2	0.0	-0.1	0.3	0.6	0.6	-0.8	0.1	0.2	0.4	0.3
U850-EP (5N ~ 5S) (130W ~ 100W)	0.4	-0.1	-0.9	0.6	-1.2	1.9	-0.0	0.1	-0.1	0.2	0.5	0.9	0.7	-0.4	0.8	1.0	0.2	0.9

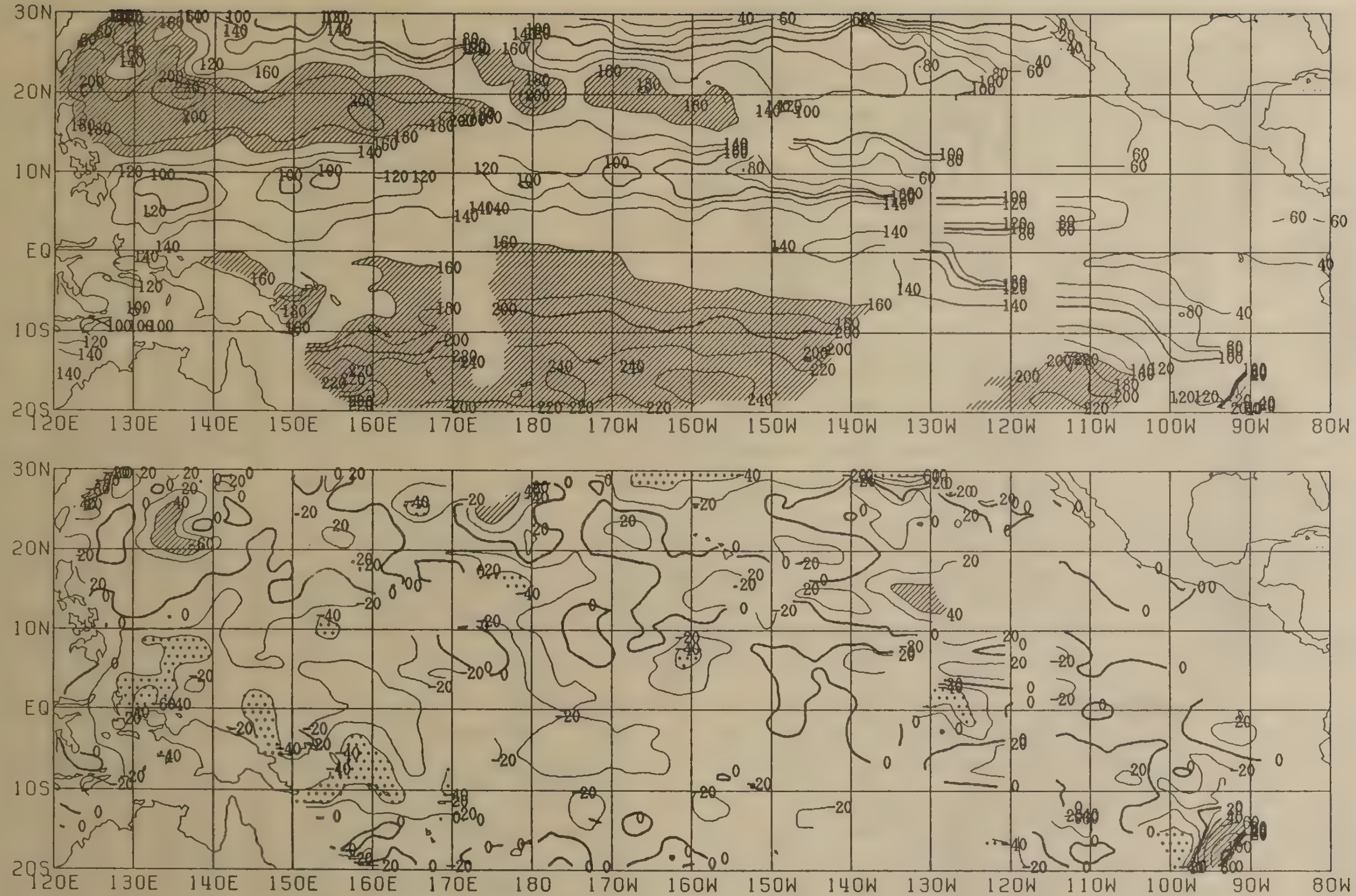
第１表 (b) エルニーニョ監視指数(続き)
Table 1(b) El Niño monitoring indices (continued) .
Data source for these atmospheric conditions is the Long-range Forecast Division, JMA.

SST & Anomalies in the Global Ocean



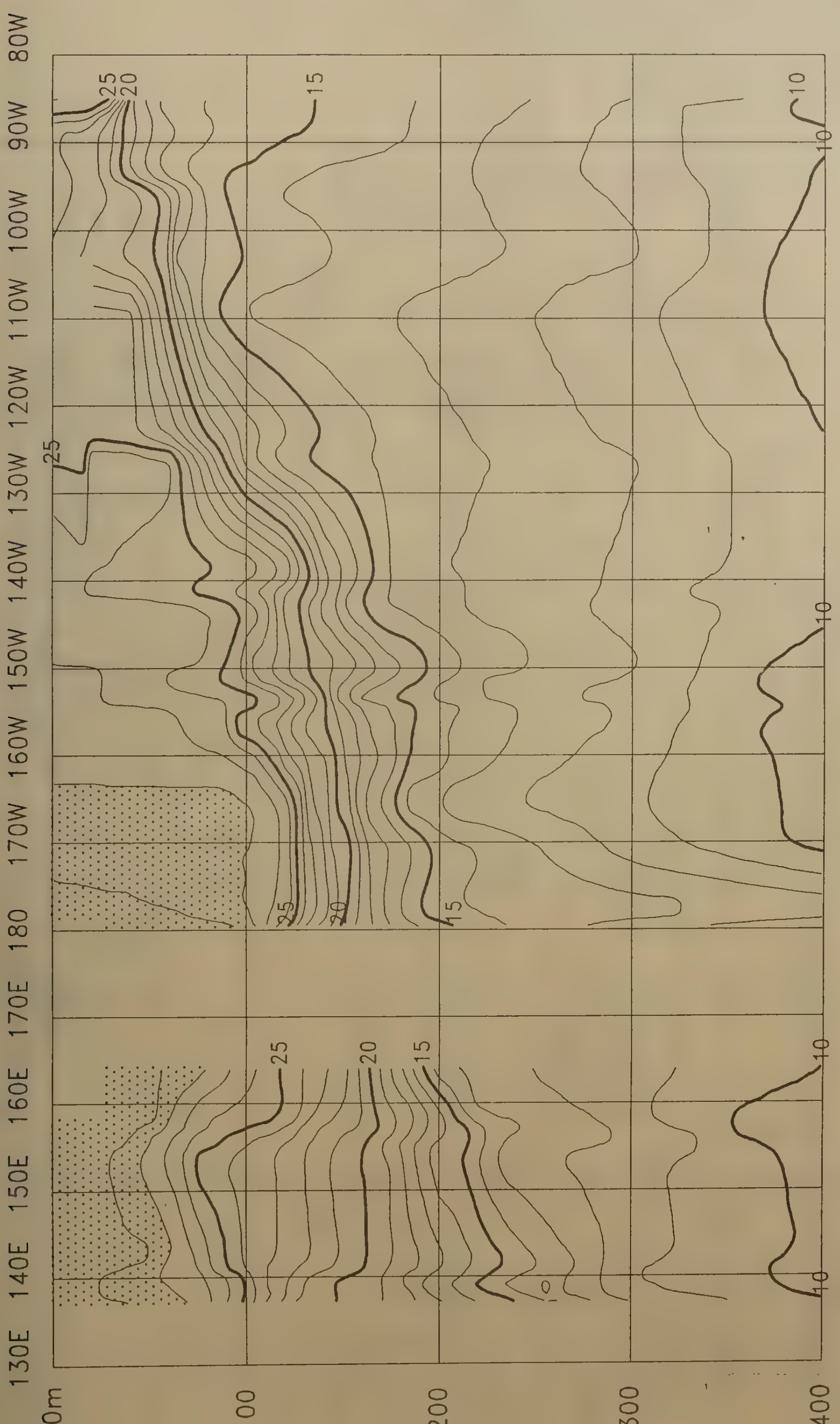
第１図　全球月平均海面水温図（上）及び偏差図（下）（1993年11月）

Fig.1　Monthly mean sea surface temperature in the global ocean (top) and anomalies (bottom) for NOV 1993. Anomalies are computed with respect to the JMA climatology (1961–90) (Climatic charts of sea surface temperatures of the western North Pacific and the global ocean, March 1991). The Contour interval is 1°C and additional anomaly contours of ±0.5°C are shown as broken lines. Negative anomalies are stippled.



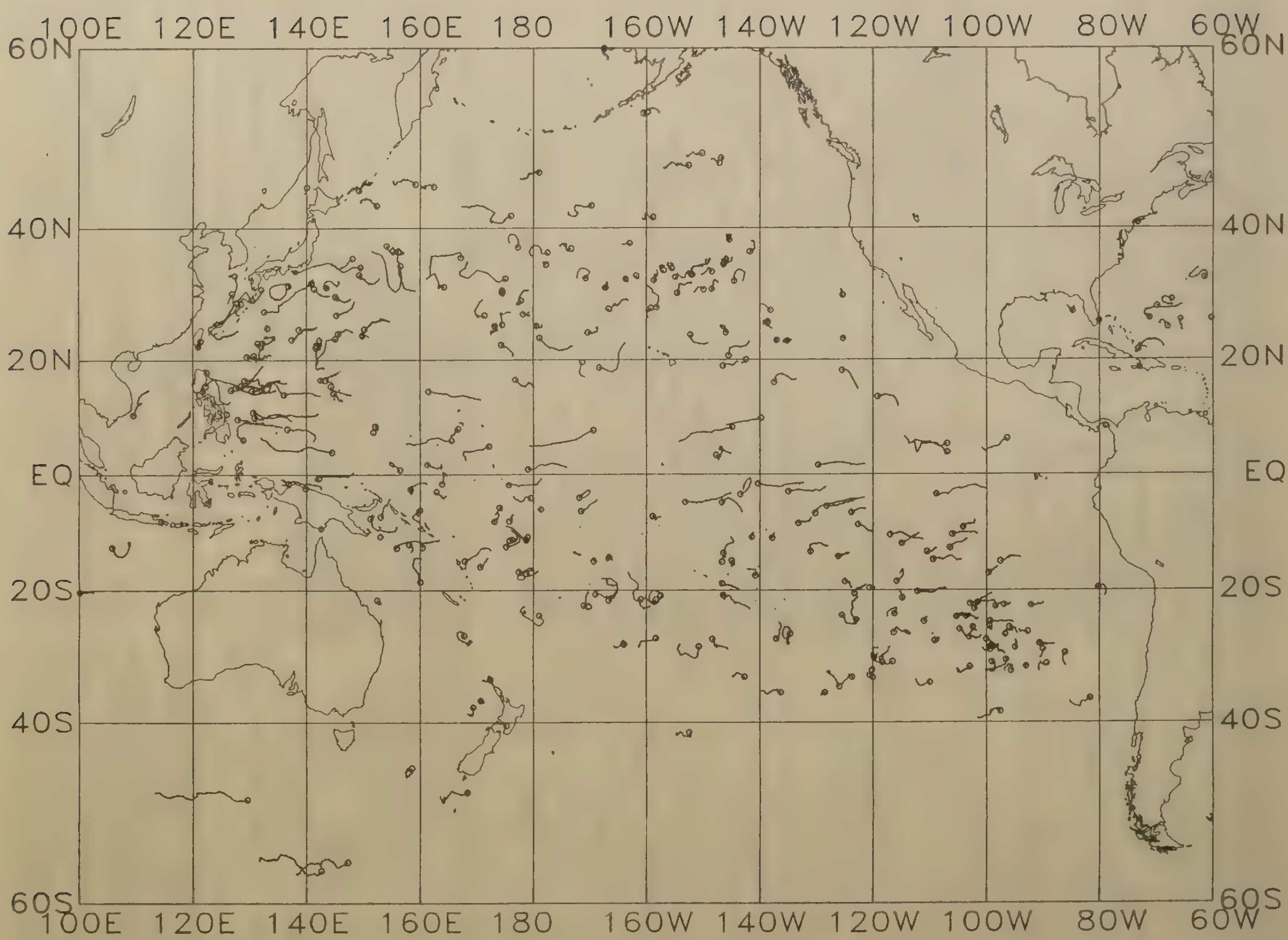
第２図　太平洋表層水温（20℃深度）図（上）及び偏差図（下）（1993年11月）
Fig.2　The depth of a 20° C isotherm in the Pacific Ocean (top) and anomalies (bottom) for NOV 1993.　Anomalies are computed with respect to the climatology (Levitus, 1982, Climatological Atlas of the World Ocean, NOAA).
The contour interval is 20m with shading for values greater than 160m (top), and shading/stippling for values greater/smaller than +40m/−40m (bottom).

Depth–Longitude Section of Ocean Temperature



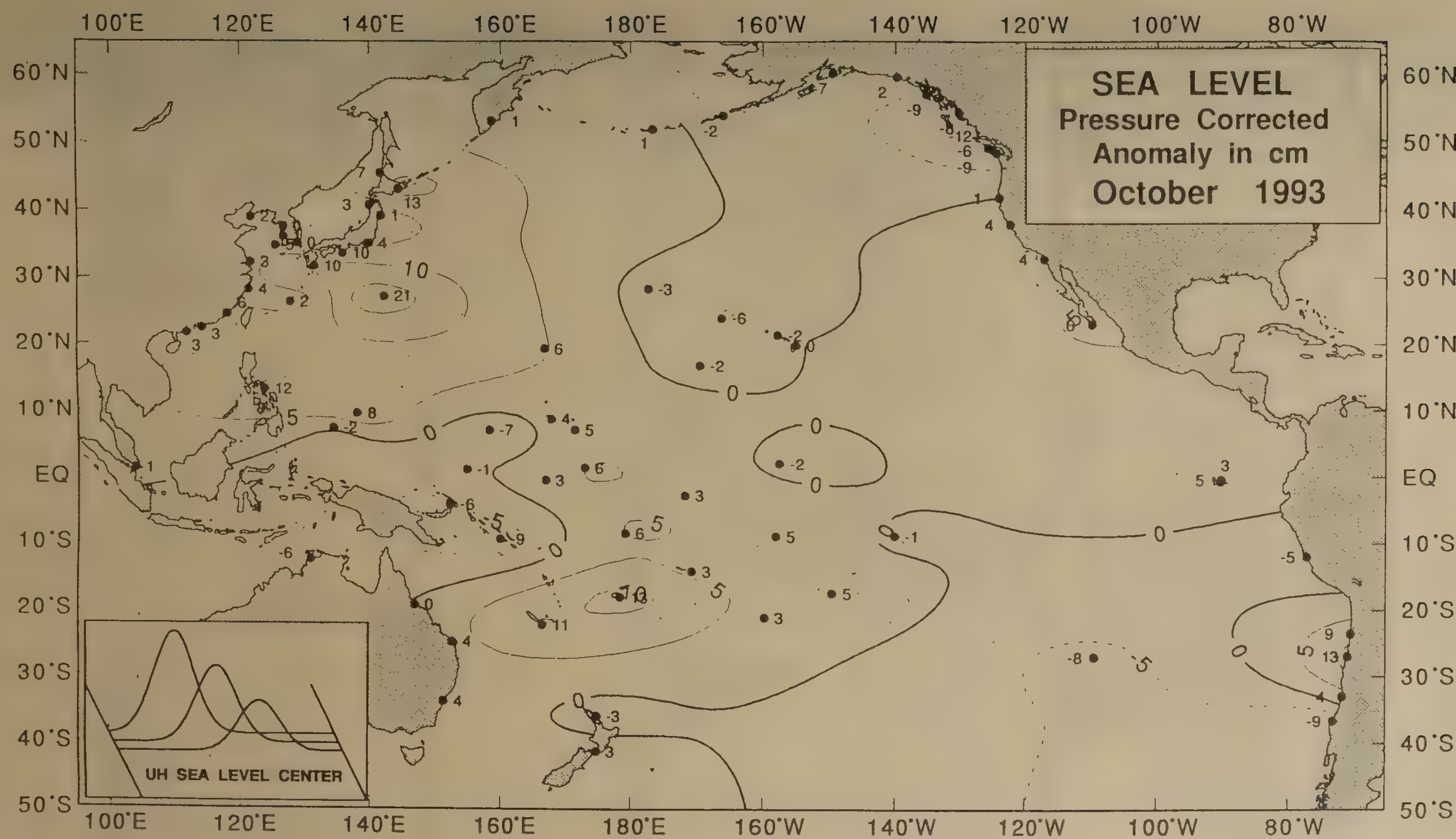
第３図　太平洋赤道に沿う表層水温断面図（1993年11月）

Fig.3 Depth–longitude section of the Pacific Ocean temperature along the equator for NOV 1993. The contour interval is 1° C with spotted shading for values greater than 28° C.



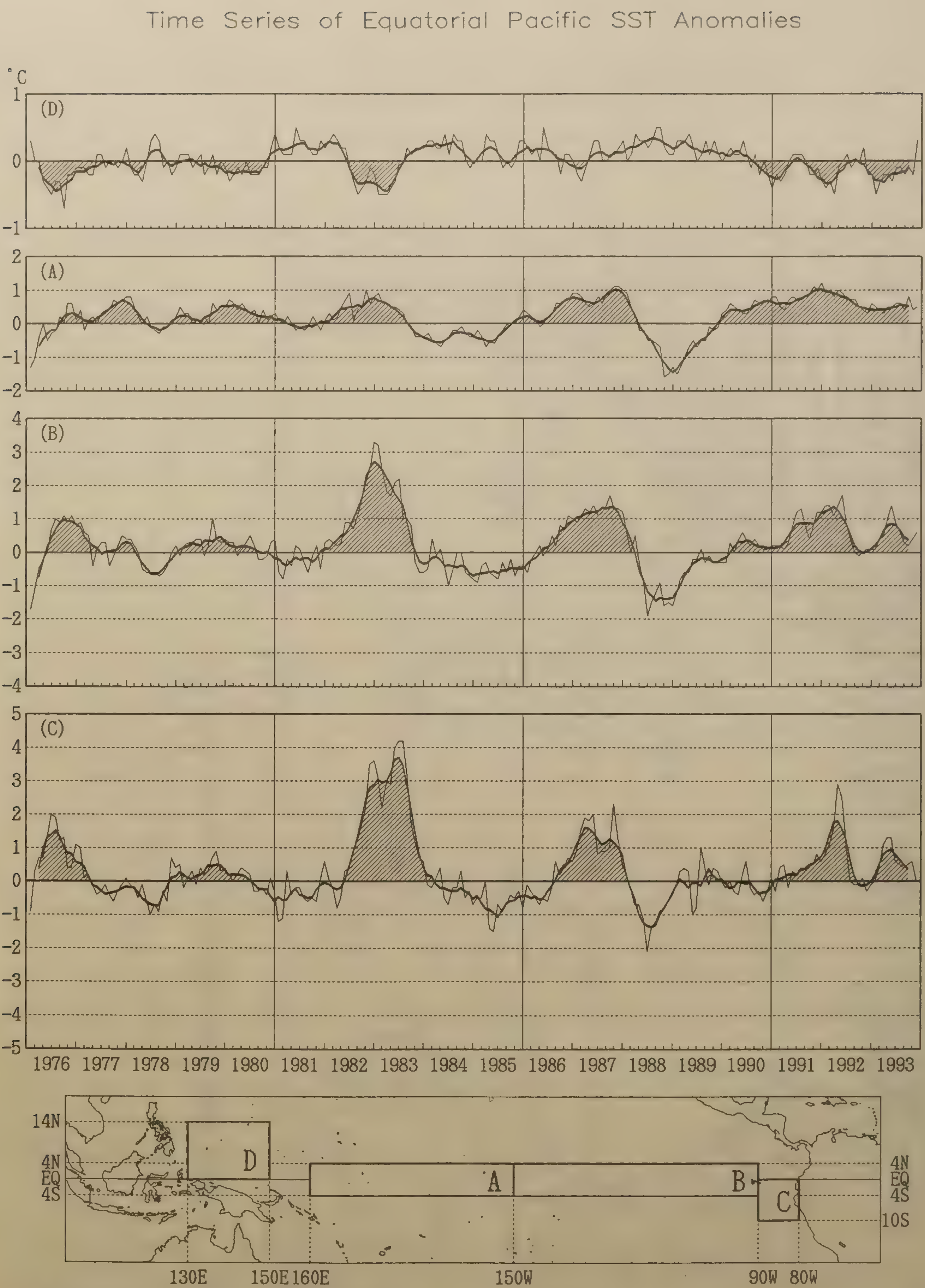
第4図　太平洋ブイ流跡図(1993年11月)

Fig.4 Movements of drifting buoys in the Pacific Ocean during NOV 1993. Each track is one buoy, with the small circle representing the buoy's last position for the month.



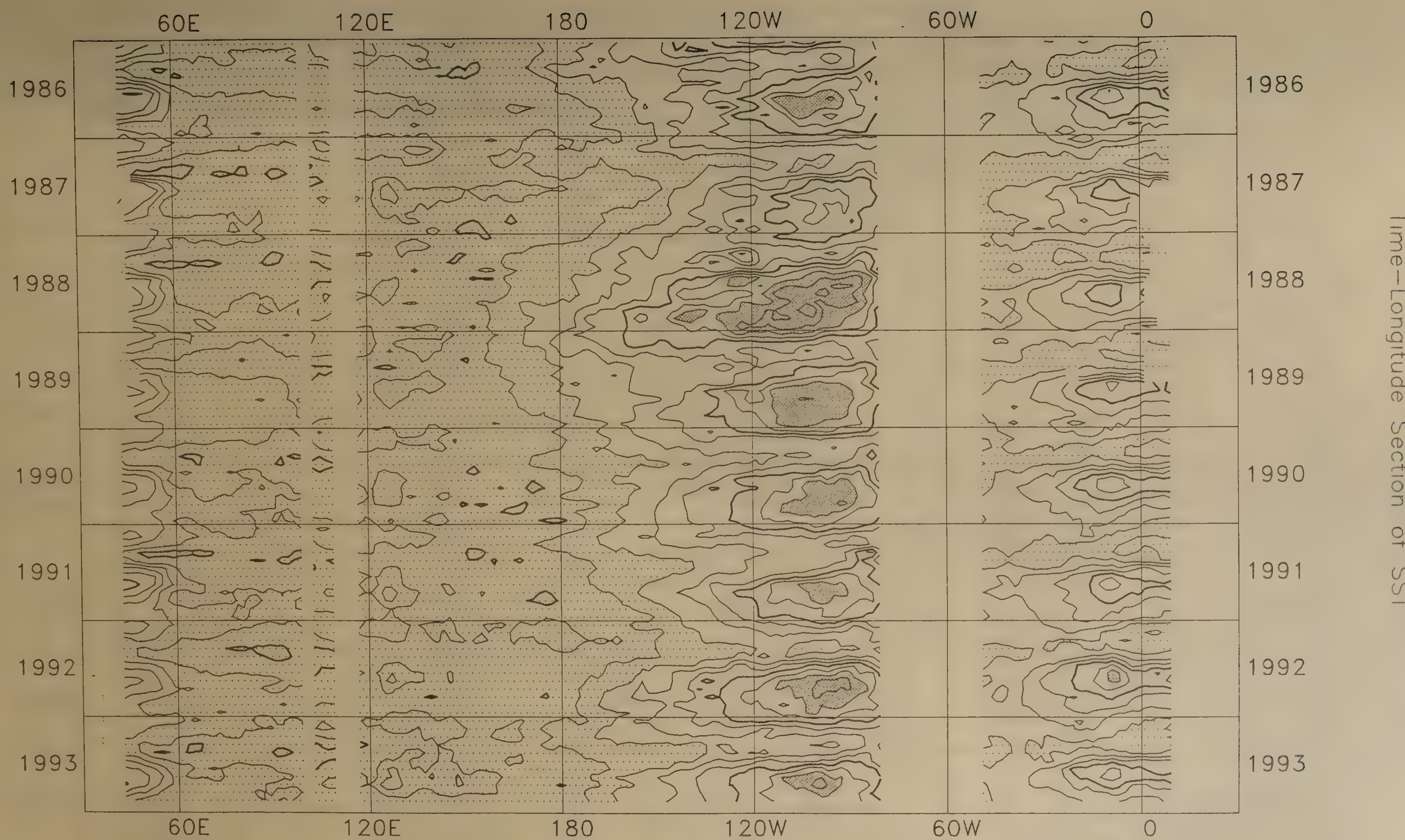
第5図　太平洋海面水位偏差図（ 1993年10月 ）

Fig.5 Sea level anomalies obtained from the 1975 to 1986 mean OCT sea level adjusted for atmospheric pressure (OCT 1993).
This figure is prepared by the SOC of ISLP–PAC, Dept. of Oceanography, Univ. of Hawaii.



第６図　赤道太平洋海面水温偏差時系列図

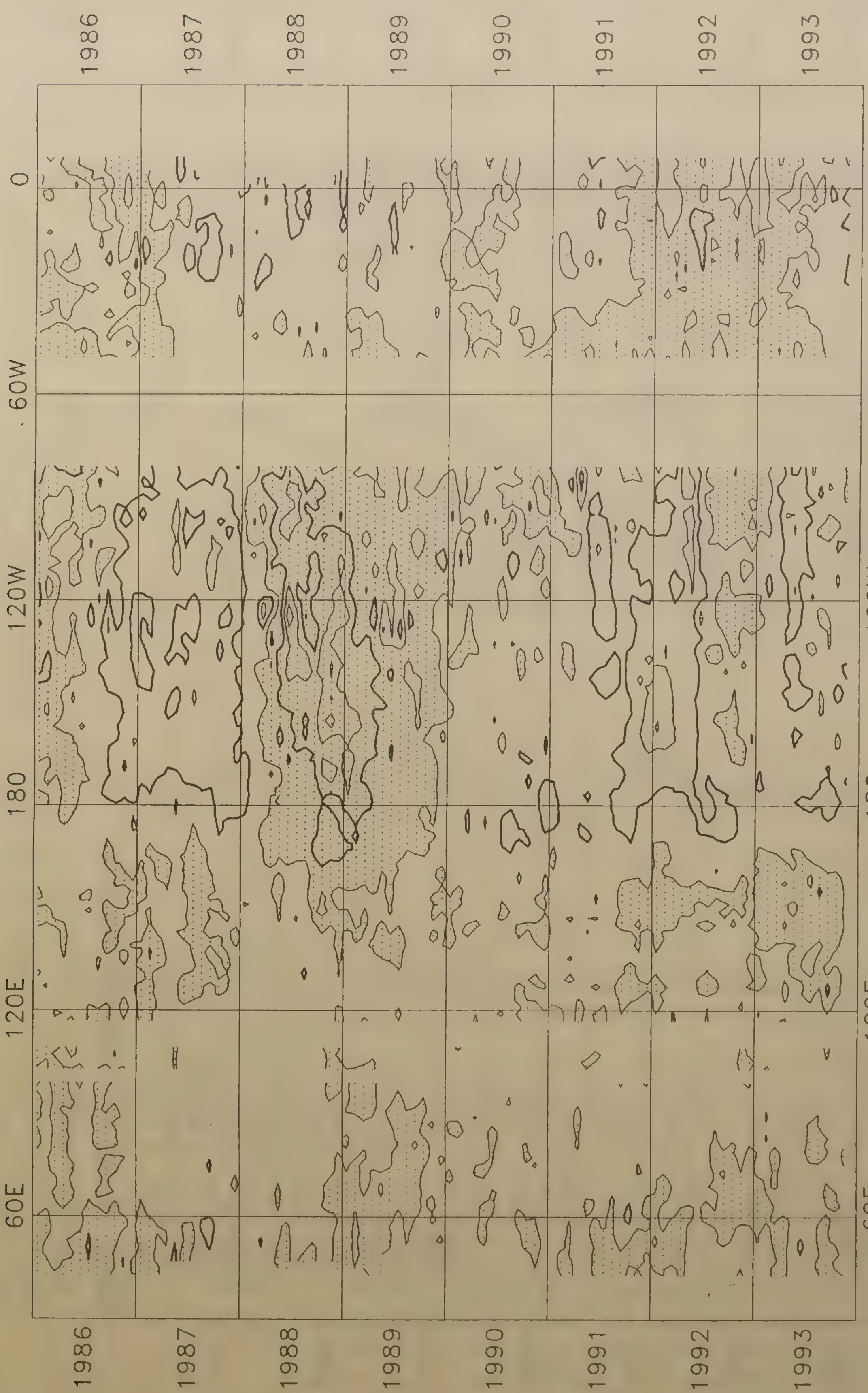
Fig.6 Time series of monthly mean SST anomalies in the equotorial Pacific Ocean for the areas indicated at the bottom of the figure. Thin lines show the monthly values and thick lines their 5 month running mean. Positve anomalies (A,B,C) and negative anomalies (D) are shaded. Anomalies are computed with respect to the JMA climatology (1961–90).



第7図　赤道に沿う海面水温時系列図

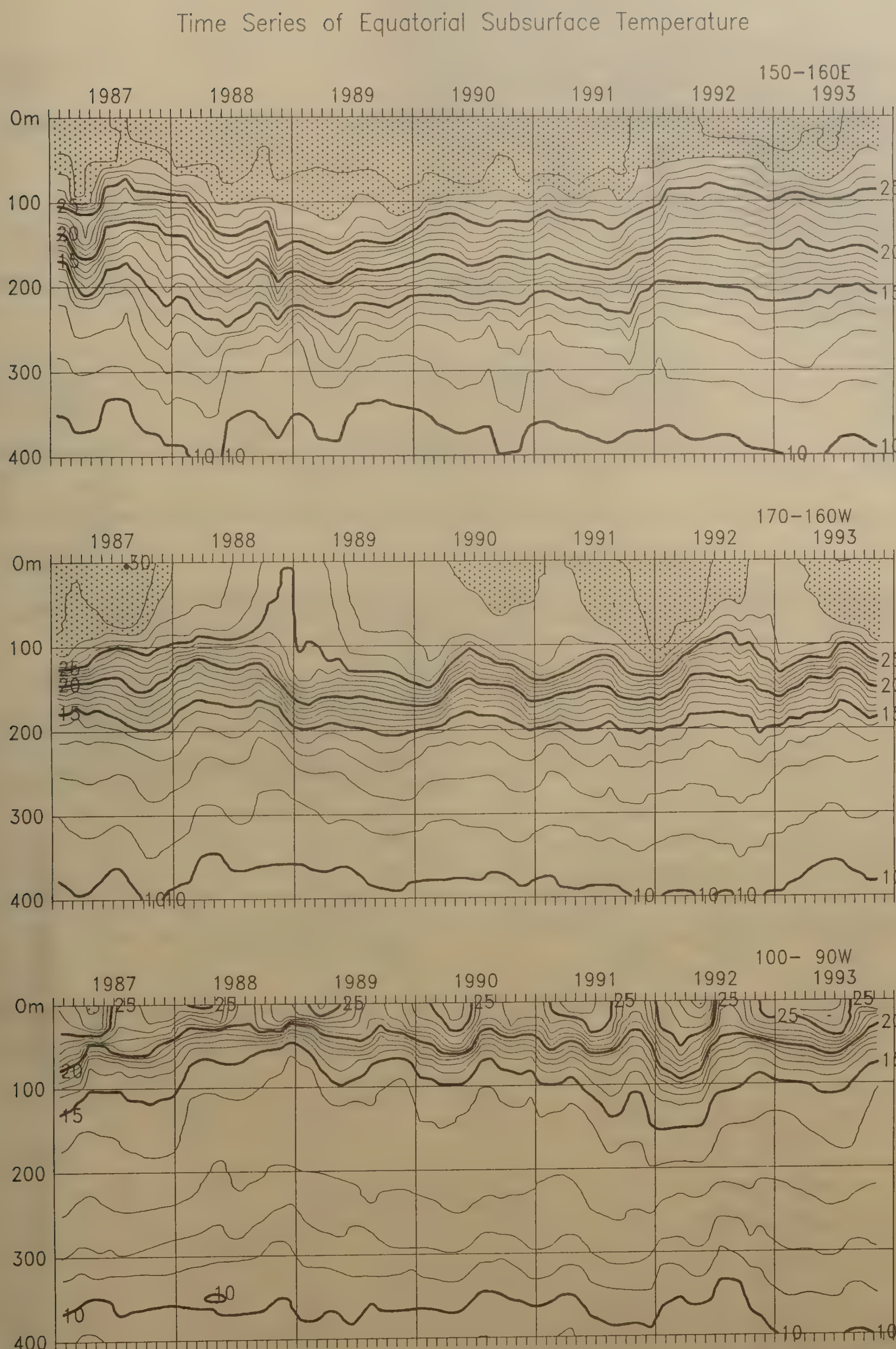
Fig.7 Time−longitude section of SSTs along the equator (2° N−2° S) in the global ocean. The contour interval is 1° C, with thick contour lines at 25 and 30° C. SST values greater than 28° C are spotted and values less than 23° C are shaded.

Time–Longitude Section of SST Anomalies



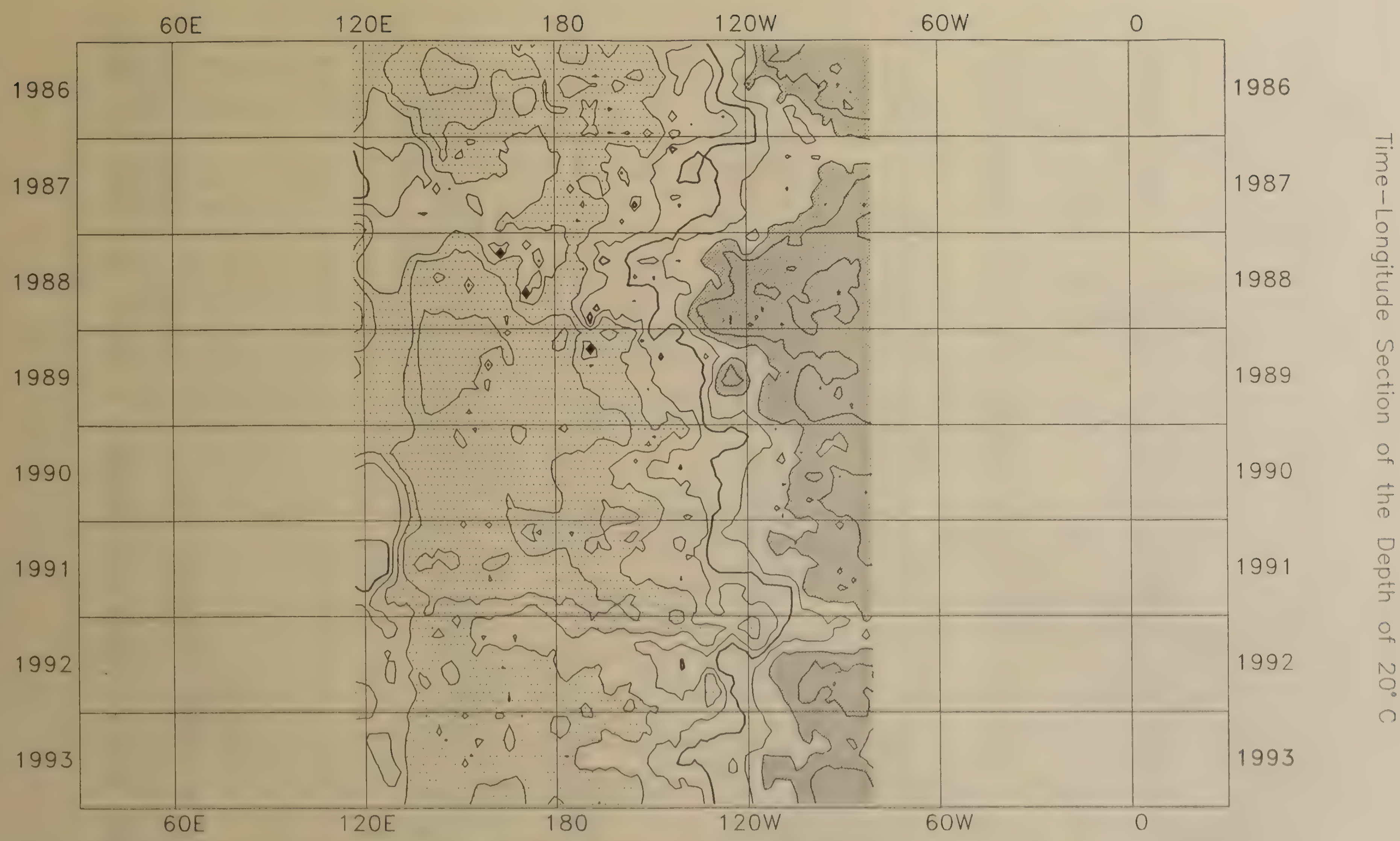
第8図　赤道に沿う海面水温偏差時系列図

Fig.8 Time–longitude section of SST anomalies along the equator (2° N–2° S) based on the JMA climatology (1961–1990). The contour interval is 1° C, with thick contour lines at +1° C and −1° C. Negative anomalies are spotted.



第９図　赤道太平洋表層水温時系列図（上：西部、中：中部、下：東部）

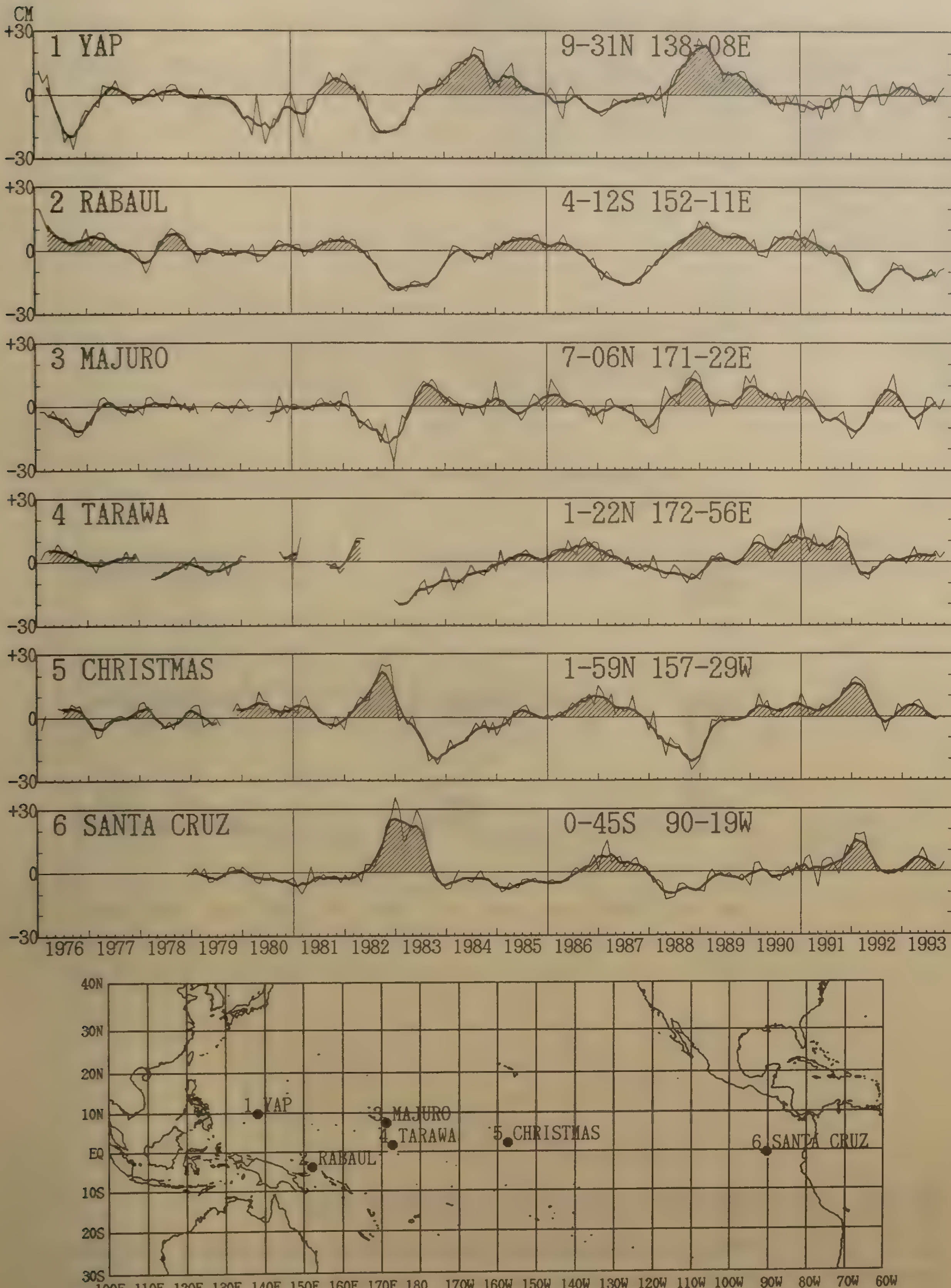
Fig.9 Time series of equatorial (2° N–2° S) subsurface temperature for the western Pacific (top, 150–160° E), the central Pacific (middle, 170–160° W) and the eastern Pacific (bottom, 100–90° W). The contour interval is 1° C with spotted shading for the values greater than 28° C.



第10図　太平洋の赤道に沿う20℃深度時系列図

Fig.10 Time–longitude section of the depth of a 20° C isotherm along the equator in the Pacific Ocean. The contour interval is 20m with thick contour lines at 100m. Values shallower than 60m are shaded and those deeper than 140m are stippled.

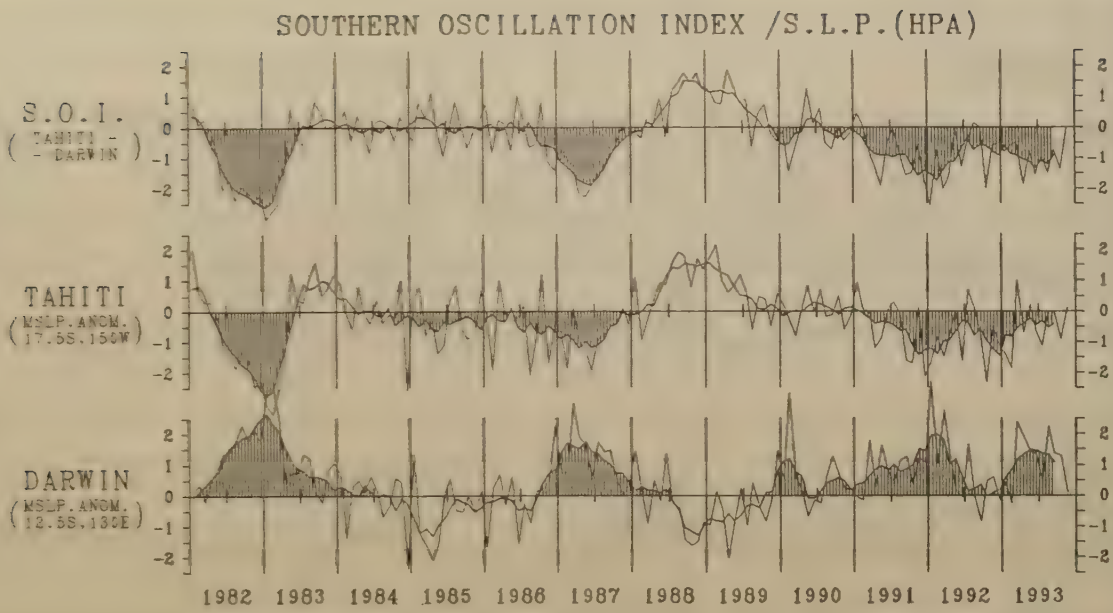
Time series of Sea Level Anomalies



第11図　太平洋月平均海面水位偏差時系列図

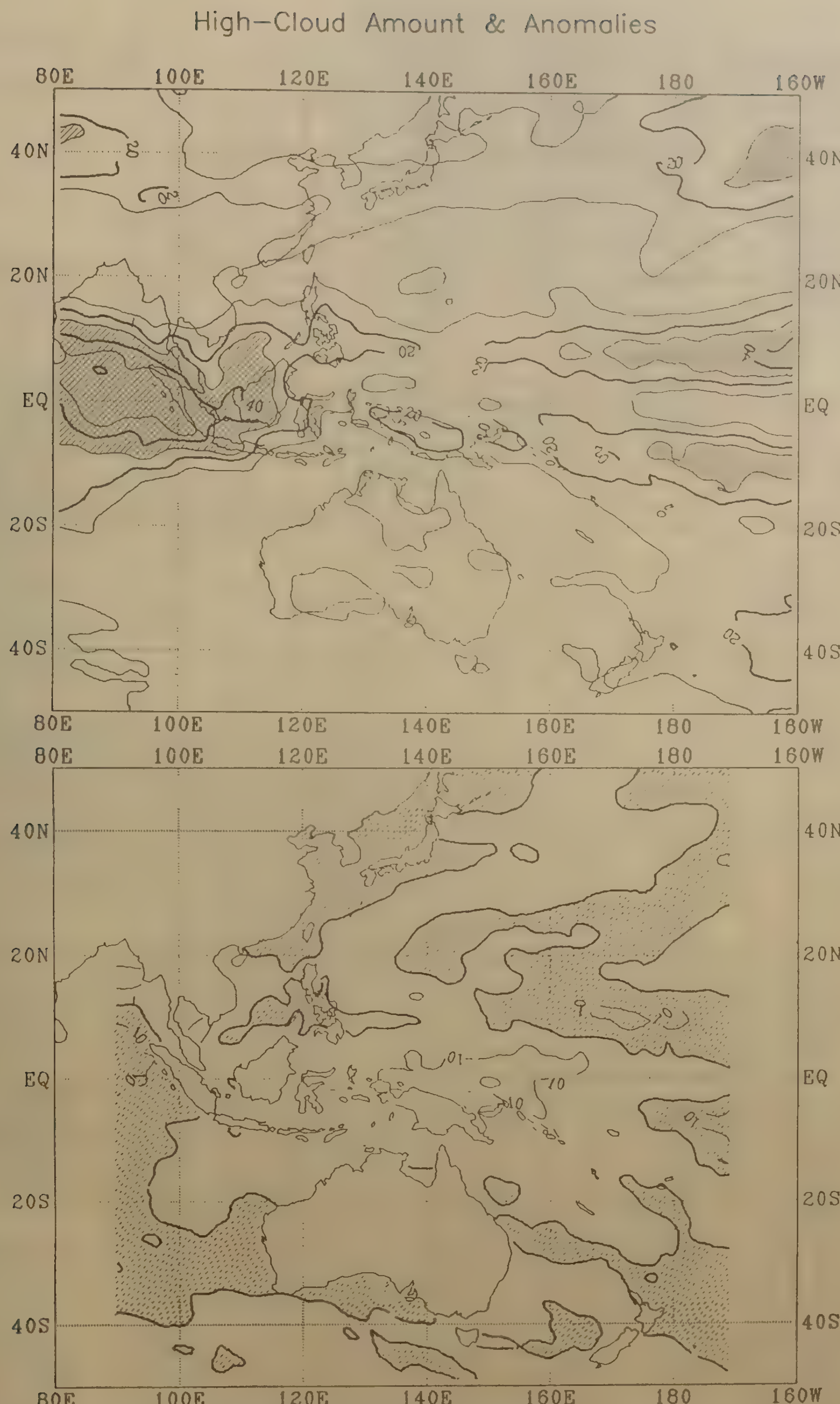
Fig.11 Time series of sea level anomalies based on 1976 to 1990 monthly mean sea level obtained from the stations indicated at the bottom of the figure. Thin lines show the monthly mean and thick lines show their 5 month running mean. Positive anomalies are shaded.

Time series of SOI & Sea Level Pressure Standardized Anomalies



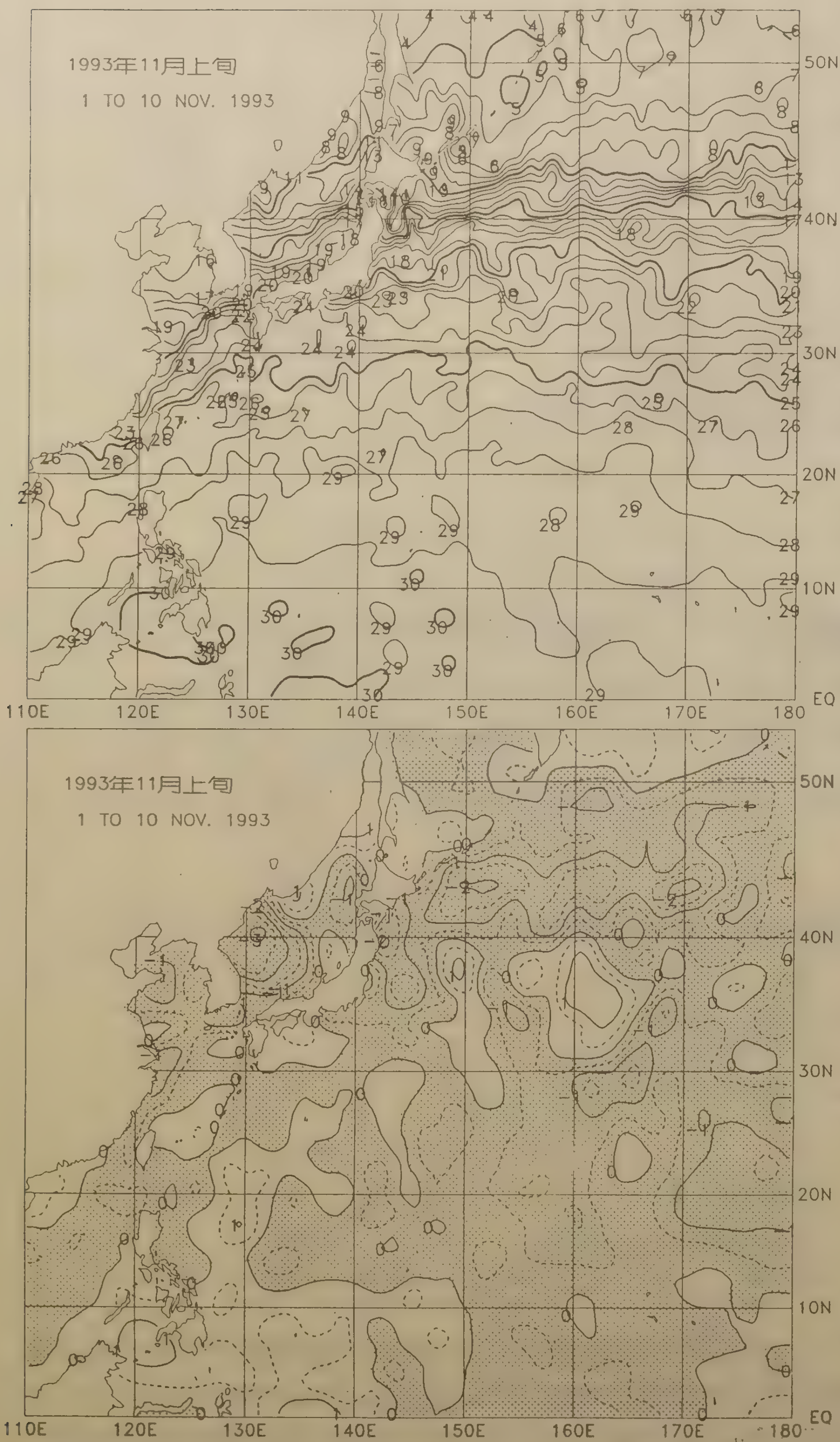
第12図　南方振動指数及び海面気圧偏差時系列図

Fig.12 The Southern Oscillation Index (top) and monthly mean sea level pressure standardized anomalies at Tahiti (middle) and Darwin (bottom). Thin lines show the monthly mean and thick lines their 5 month running mean. Negative values (top, middle) and positive values (bottom) are shaded. Base periods for normals and standard deviations are 1961−1990. This figure is prepared by the Long−range Forecast Division, JMA.



第13図　月平均上層雲量分布図及び偏差図（1993年11月）

Fig.13 Monthly mean of the high-cloud amount (%, top) and its anomalies (%, bottom) in the equatorial Pacific for NOV 1993. The contour interval is 10%. Areas above 30% are shaded (top) and positive anomalies are stippled (bottom). Anomalies represent a departure from the 1978-1990 base period monthly means. This figure is prepared by the Long-range Forecast Division, JMA.



旬平均沿岸水温(℃)
Coastal Water Temperature

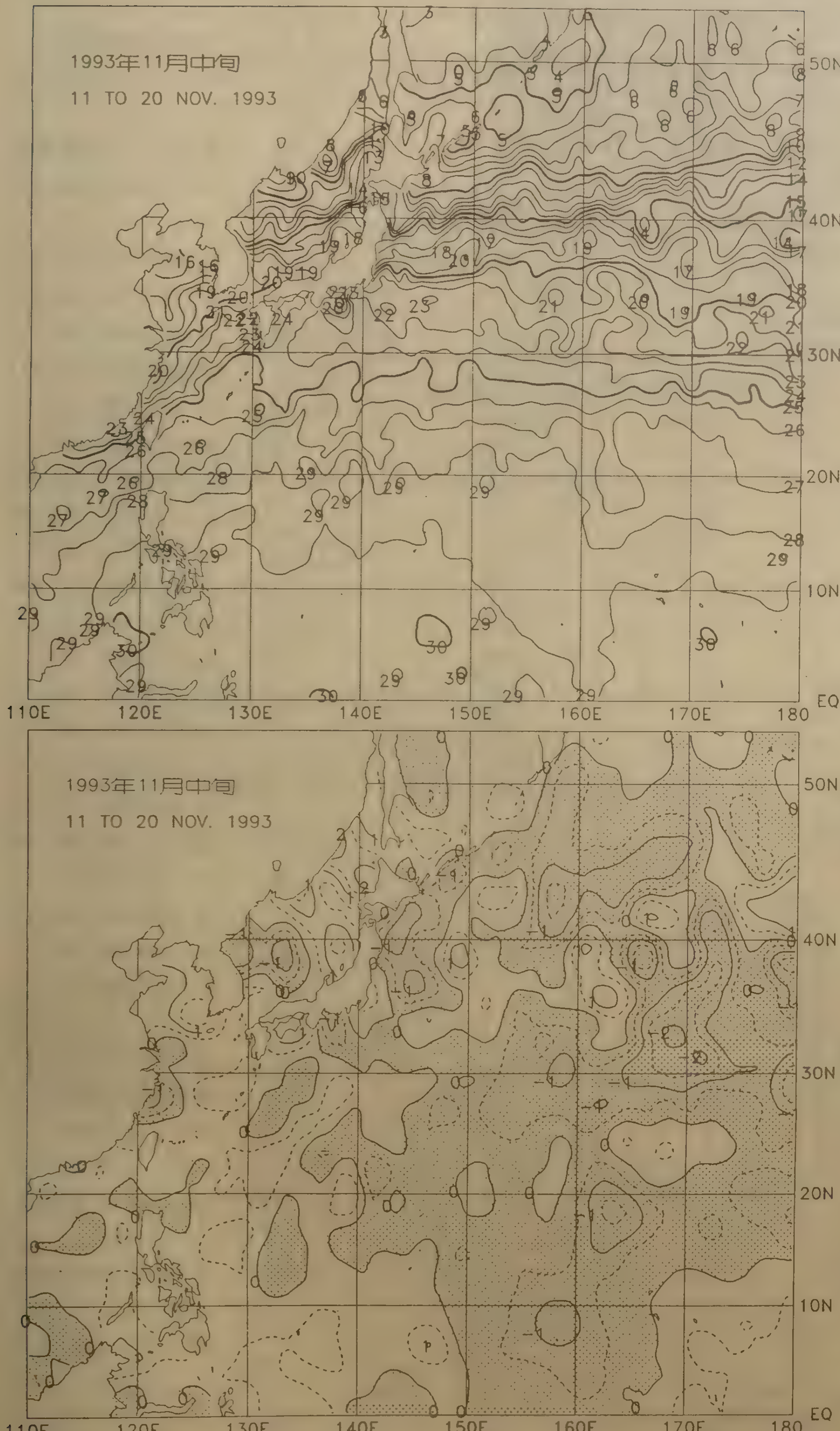
地名 (Index Number)	水温 Temp.	偏差 Anom.
石垣島(47918)	26.8	+1.8
那　覇(47936)	26.4	+1.2
名　瀬(47909)	25.0	-
足摺岬(47898)	21.8	-0.3
潮　岬(47778)	22.0	-
御前崎(47655)	17.9	-1.0
八丈島(47678)	22.8	+0.1
館　山(47672)	18.7	-1.5
小名浜(47598)	17.2	-0.3
宮　古(47585)	15.5	-0.3
浦　河(47426)	9.9	-1.1
紋　別(47435)	9.7	-
稚　内(47401)	9.6	-
寿　都(47421)	13.3	-
江　差(47428)	12.8	-
飛　島(47587)	17.3	-0.2
輪　島(47600)	16.7	-0.4
西　郷(47740)	19.3	-
浜　田(47755)	19.0	-
厳　原(47800)	19.9	-
牛　深(47838)	21.4	-

海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

地点	位置	水温
日本海	37.9N,134.5E	16.3
四国沖	29.0N,135.0E	24.7
東シナ海	28.2N,126.3E	24.8

第14図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1993年11月上旬)

Fig.14 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 1st ten-day period in NOV 1993. Anomalies are computed with respect to the JMA climatology (1961-90). The contour interval is 1°C and additional anomaly contours of 0.5°C are shown. Negative anomalies are stippled.



旬平均沿岸水温(℃)
Coastal Water Temperature

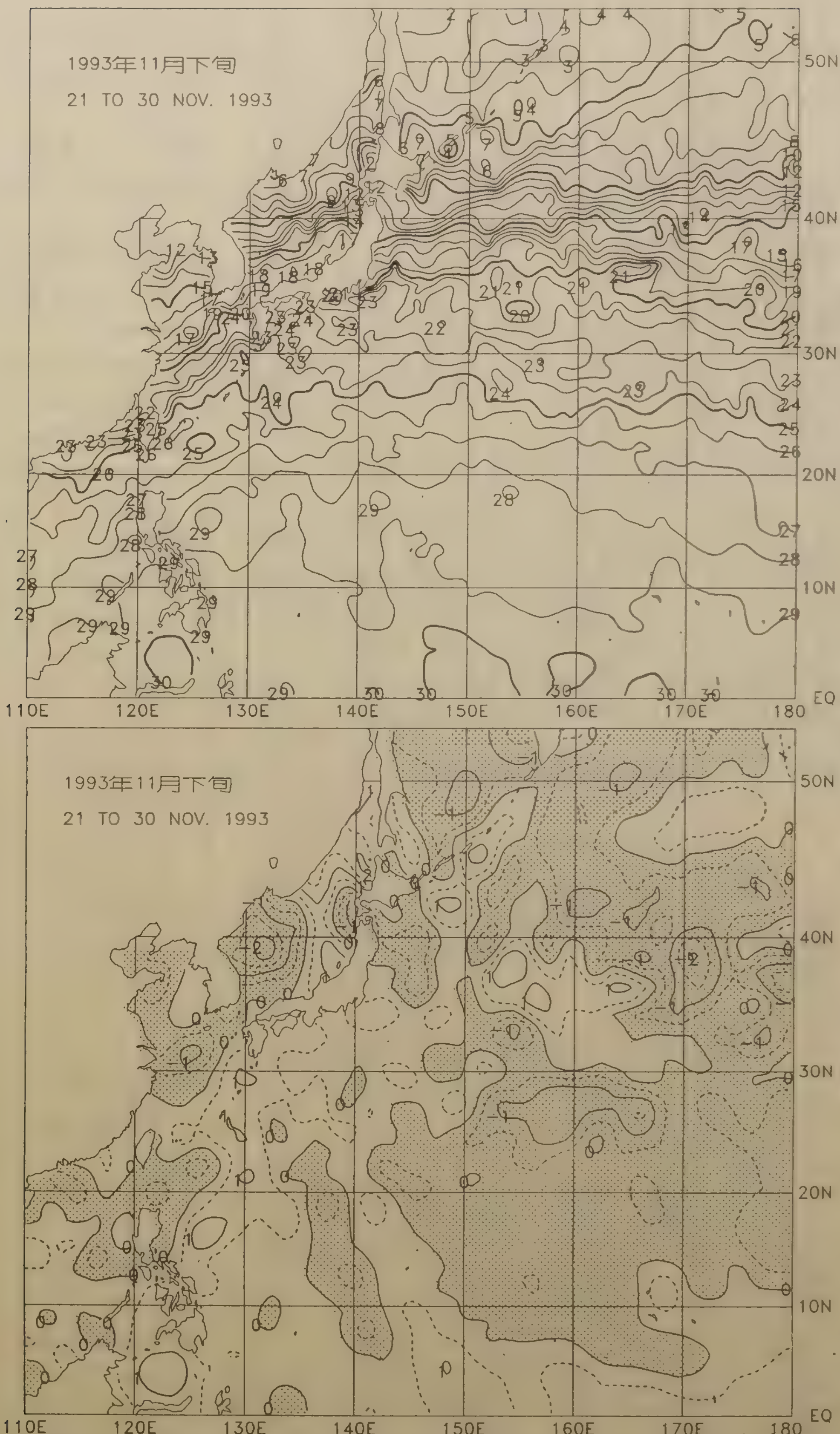
地名 (Index Number)	水温 Temp.	偏差 Anom.
石垣島(47918)	26.6	+2.3
那　覇(47936)	26.2	+1.7
名　瀬(47909)	25.2	-
足摺岬(47898)	22.0	+1.0
潮　岬(47778)	22.9	-
御前崎(47655)	18.6	+1.3
八丈島(47678)	22.6	+0.8
館　山(47672)	20.4	+1.4
小名浜(47598)	16.8	+0.6
宮　古(47585)	14.7	-0.2
浦　河(47426)	11.9	+2.5
紋　別(47435)	8.8	-
稚　内(47401)	8.8	-
寿　都(47421)	12.7	-
江　差(47428)	13.9	-
飛　島(47587)	16.1	-0.2
輪　島(47600)	16.3	+0.5
西　郷(47740)	18.5	-
浜　田(47755)	19.4	-
厳　原(47800)	20.0	-
牛　深(47838)	21.1	-

海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

日本海	37.9N,134.5E	16.3
四国沖	29.0N,135.0E	24.6
東シナ海	28.2N,126.3E	24.9

第15図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1993年11月中旬)

Fig.15 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 2nd ten-day period in NOV 1993. Anomalies are computed with respect to the JMA climatology (1961-90). The contour interval is 1° C and additional anomaly contours of 0.5° C are shown. Negative anomalies are stippled.



旬平均沿岸水温(℃)
Coastal Water Temperature

地名 (Index Number)	水温 Temp.	偏差 Anom.
石垣島(47918)	24.7	+1.5
那覇(47936)	24.8	+1.2
名瀬(47909)	24.2	-
足摺岬(47898)	20.1	+0.1
潮岬(47778)	21.2	-
御前崎(47655)	17.0	+1.1
八丈島(47678)	21.4	+0.5
館山(47672)	17.9	-0.4
小名浜(47598)	16.1	+1.1
宮古(47585)	13.9	+0.2
浦河(47426)	6.4	-0.9
紋別(47435)	6.8	-
稚内(47401)	6.9	-
寿都(47421)	10.8	-
江差(47428)	11.2	-
飛島(47587)	14.4	-0.6
輪島(47600)	15.1	+0.6
西郷(47740)	17.7	-
浜田(47755)	16.6	-
厳原(47800)	18.7	-
牛深(47838)	19.7	-

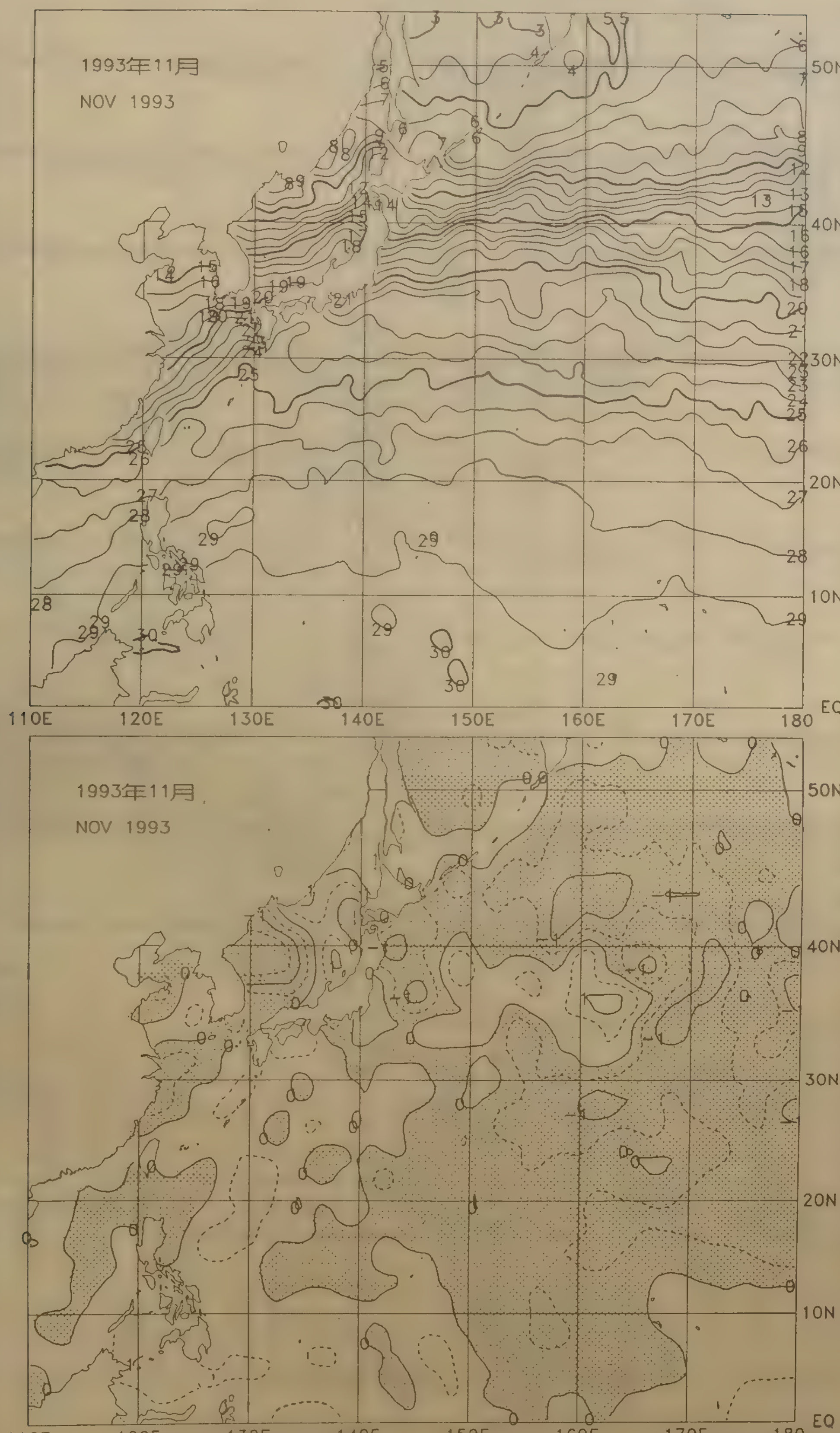
海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

地点	位置	水温
日本海	37.9N,134.5E	14.8
四国沖	29.0N,135.0E	23.7
東シナ海	28.2N,126.3E	23.3

第16図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1993年11月下旬)

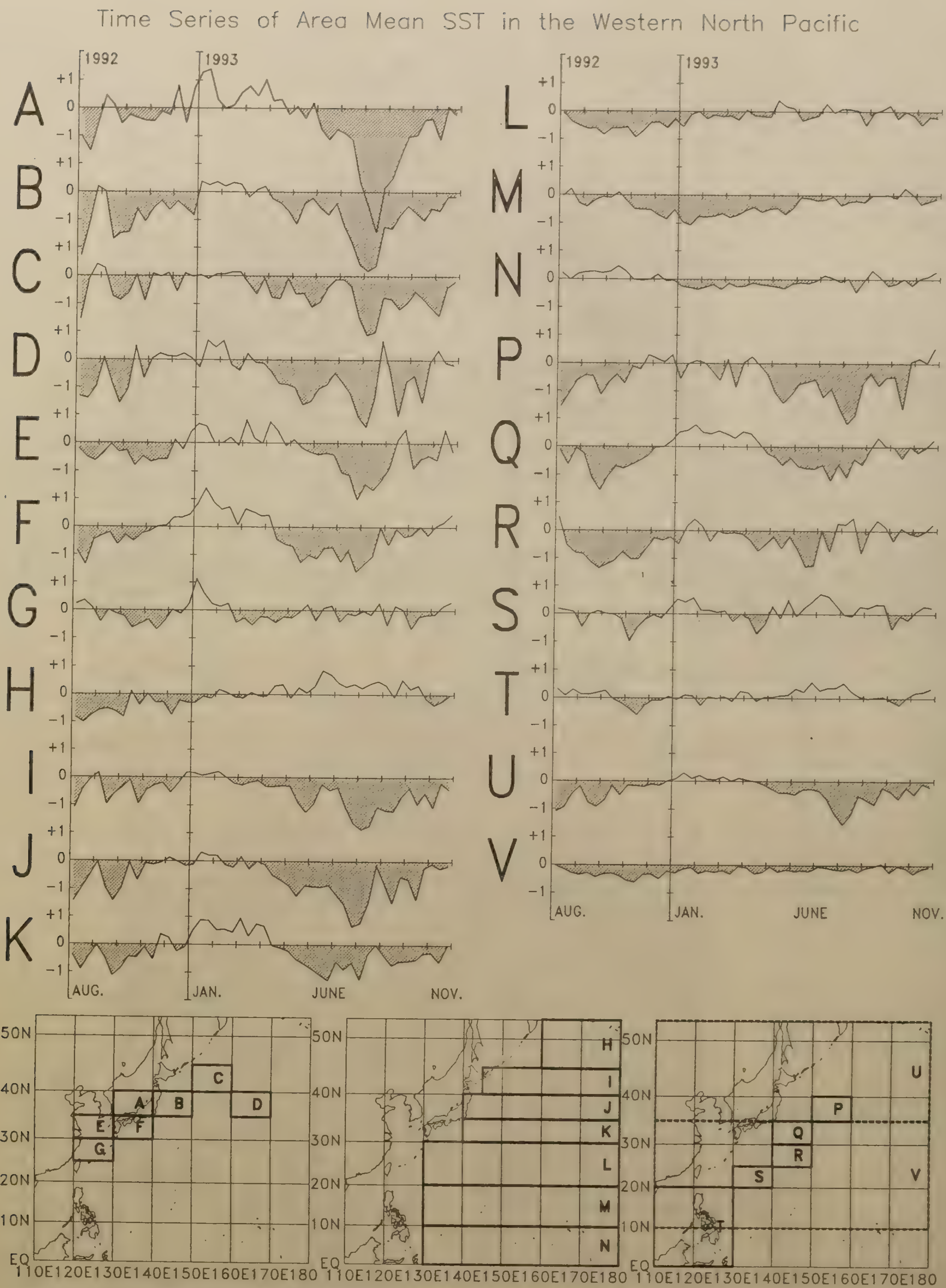
Fig.16 Ten-day mean SSTs in the western North Pacific (top) and anomalies (bottom) for the 3rd ten-day period in NOV 1993. Anomalies are computed with respect to the JMA climatology (1961-90). The contour interval is 1° C and additional anomaly contours of 0.5° C are shown. Negative anomalies are stippled.

Monthly Mean SST & Anomalies



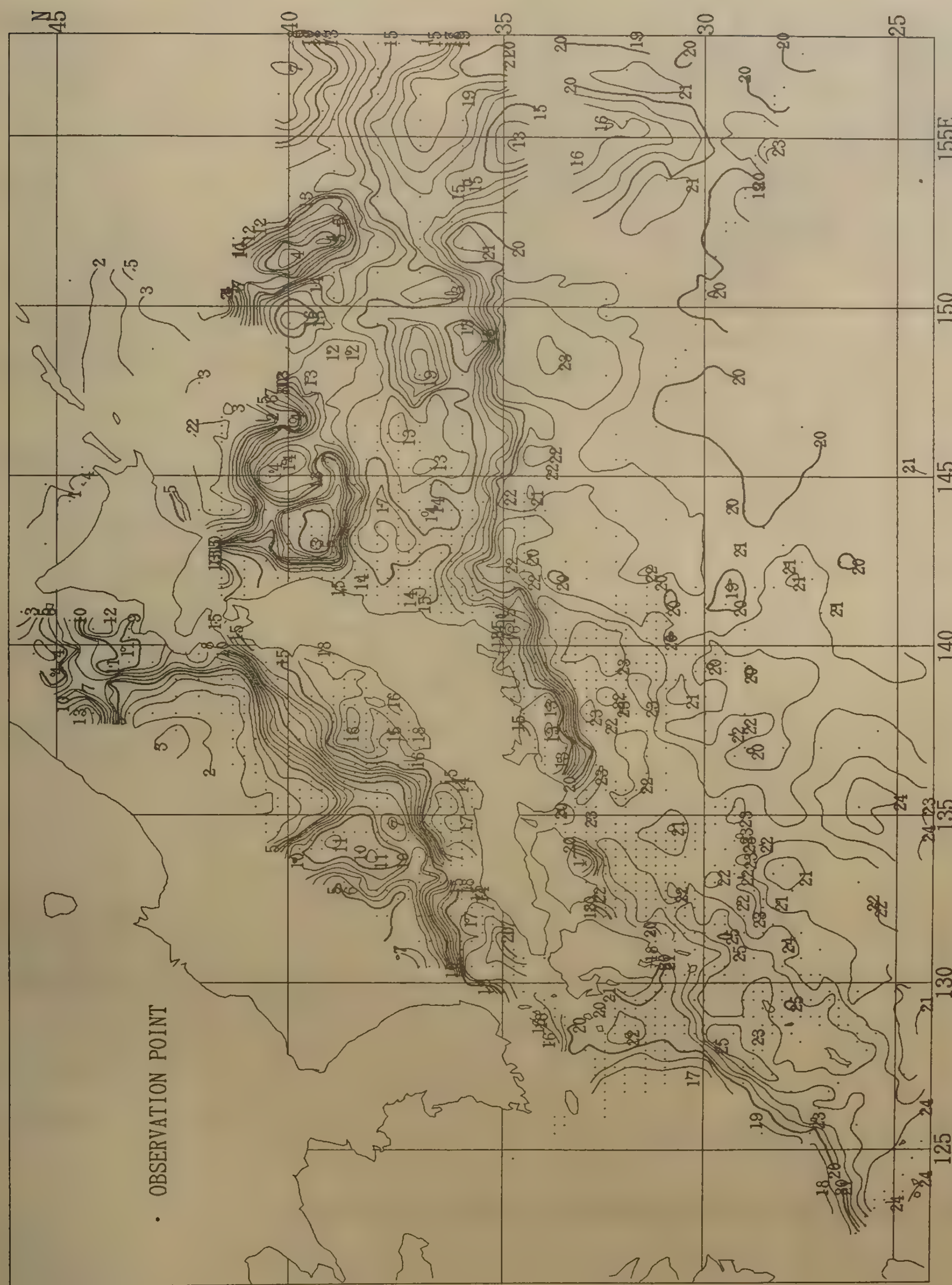
第17図 北西太平洋月平均海面水温図(上)及び偏差図(下)(1993年11月)

Fig.17 Monthly mean SSTs in the western North Pacific (top) and anomalies (bottom) for NOV 1993. Anomalies are computed with respect to the JMA climatology (1961–90). The contour interval is 1°C and additional anomaly contours of 0.5°C are shown. Negative anomalies are stippled.



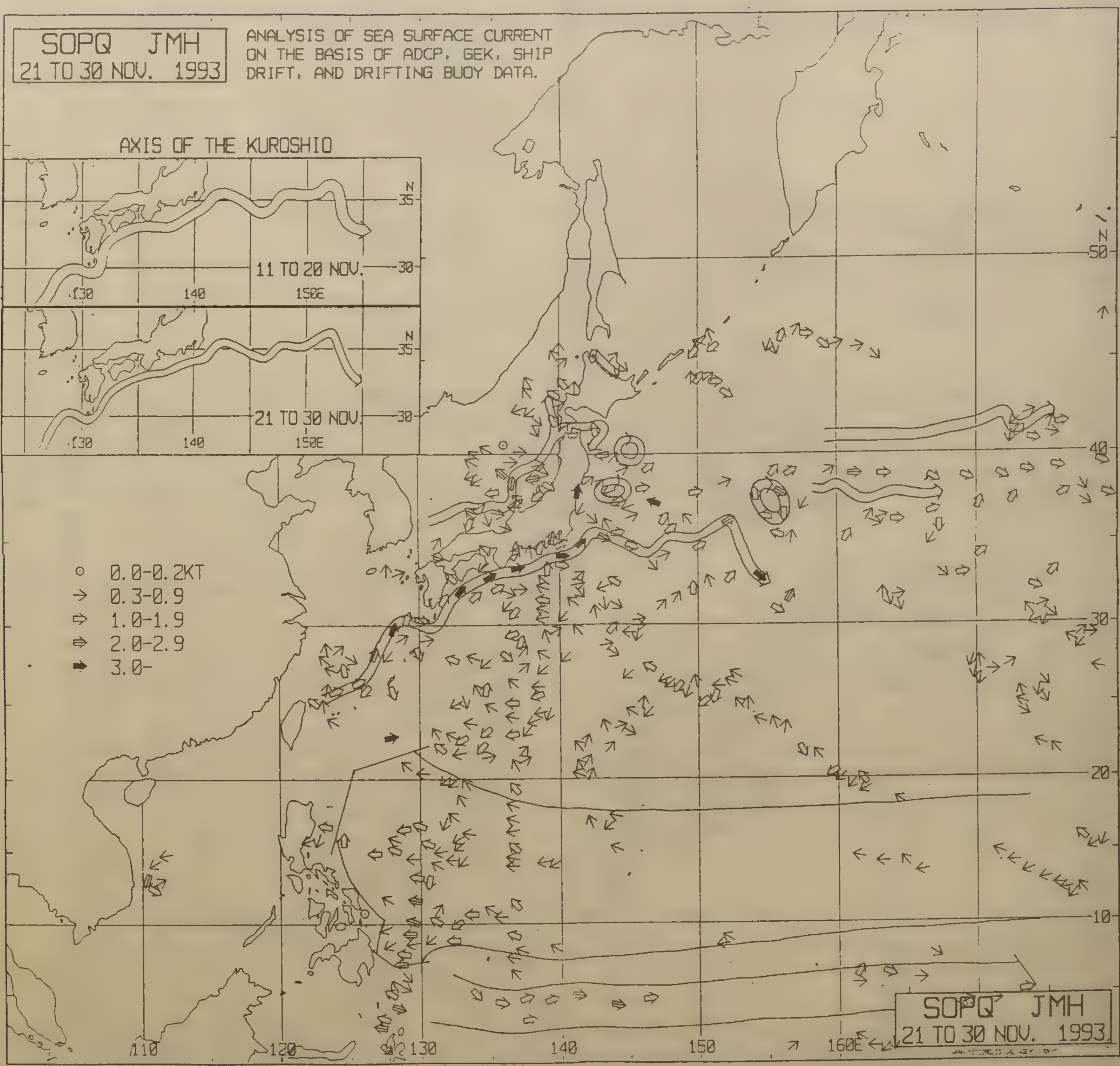
第18図　北西太平洋旬平均海面水温平年偏差時系列図

Fig.18 Time series of the ten−day mean sea surface temperature anomalies (° C) in the western North Pacific for the areas indicated at the bottom. Negative anomalies are shaded. Anomalies are computed with respect to the JMA climatology (1961−90).



第19図　日本近海表層水温（深さ100M）図（1993年11月）

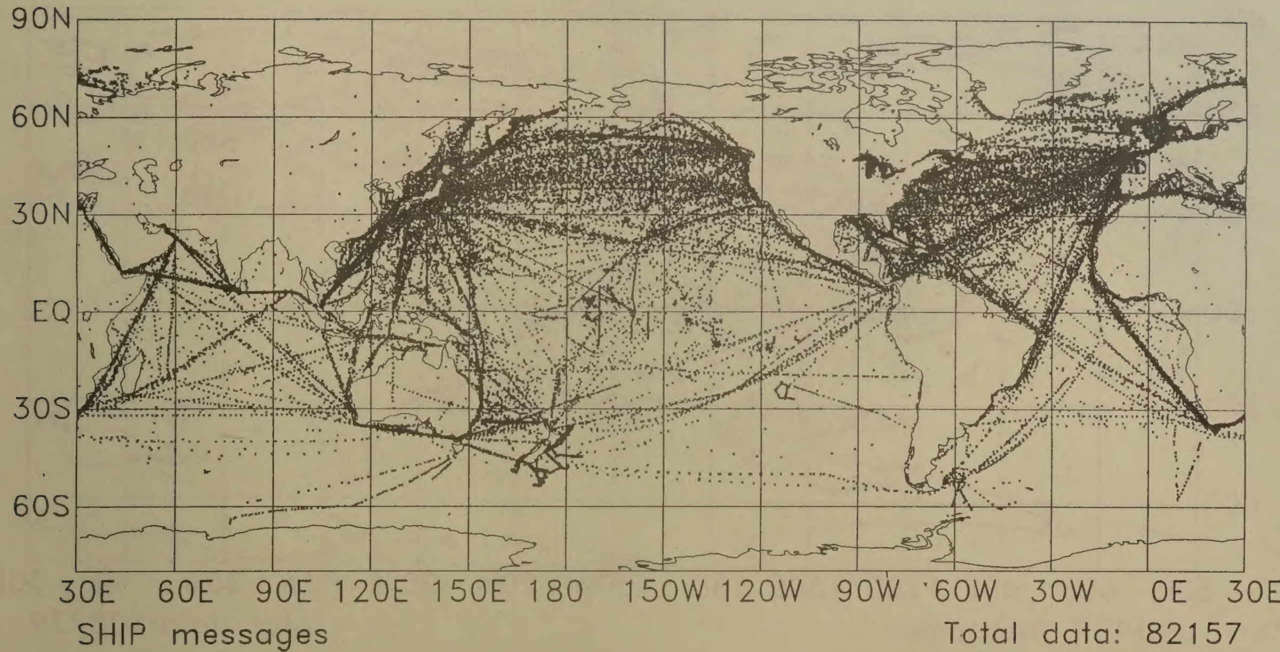
Fig.19　Subsurface (100m) temperatures in seas adjacent to Japan for NOV 1993.

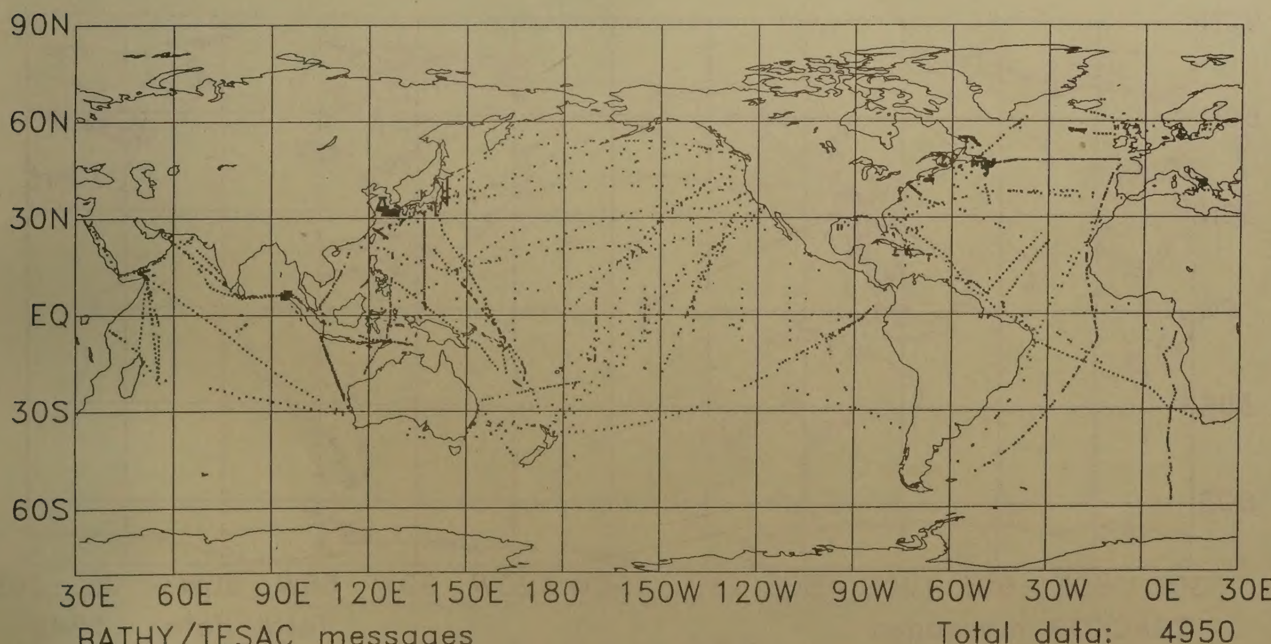


第20図　北西太平洋旬平均海流図（1993年11月下旬）

Fig.20 Ten-day analysis of the sea surface current in the western North Pacific for the 3rd ten-day period in NOV 1993. Small arrows indicate sea surface currents measured with acoustic Doppler current profilers, GEKs deployed in research vessels, and ship drift by merchant ships/drifting buoys during the month. Major currents such as the Kuroshio and the North Equatorial Current are denoted by larger open arrows.

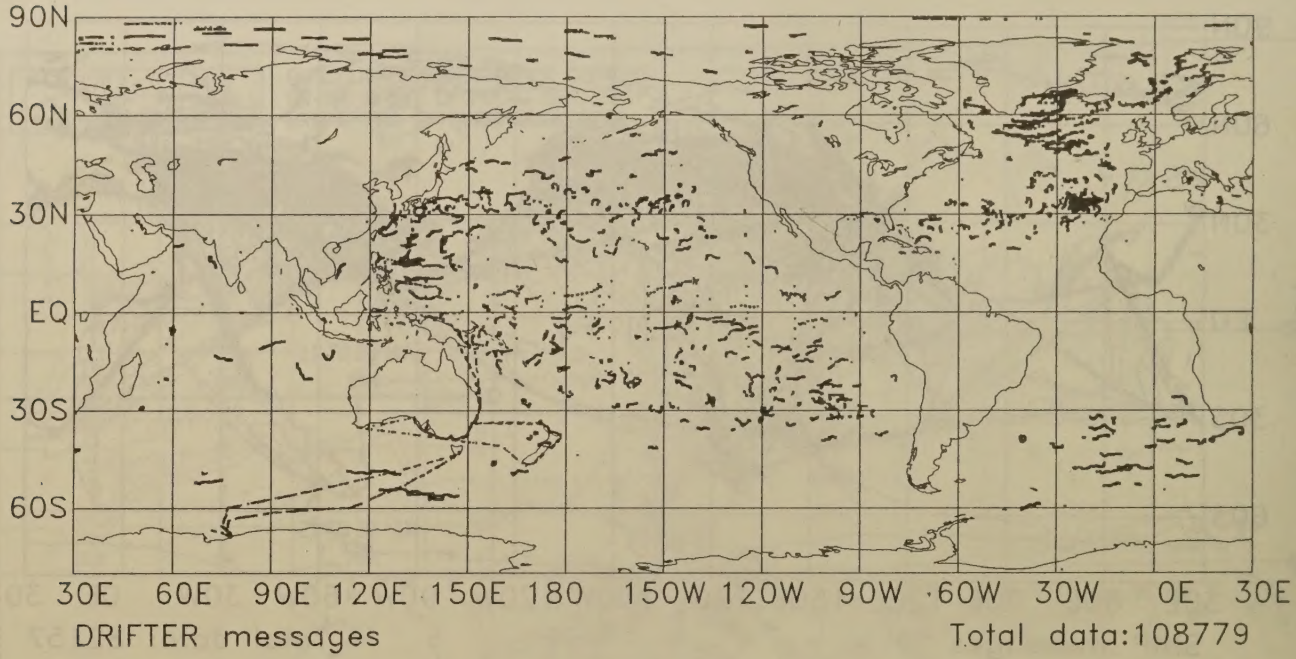
Geographical Distribution of Oceanographic Data

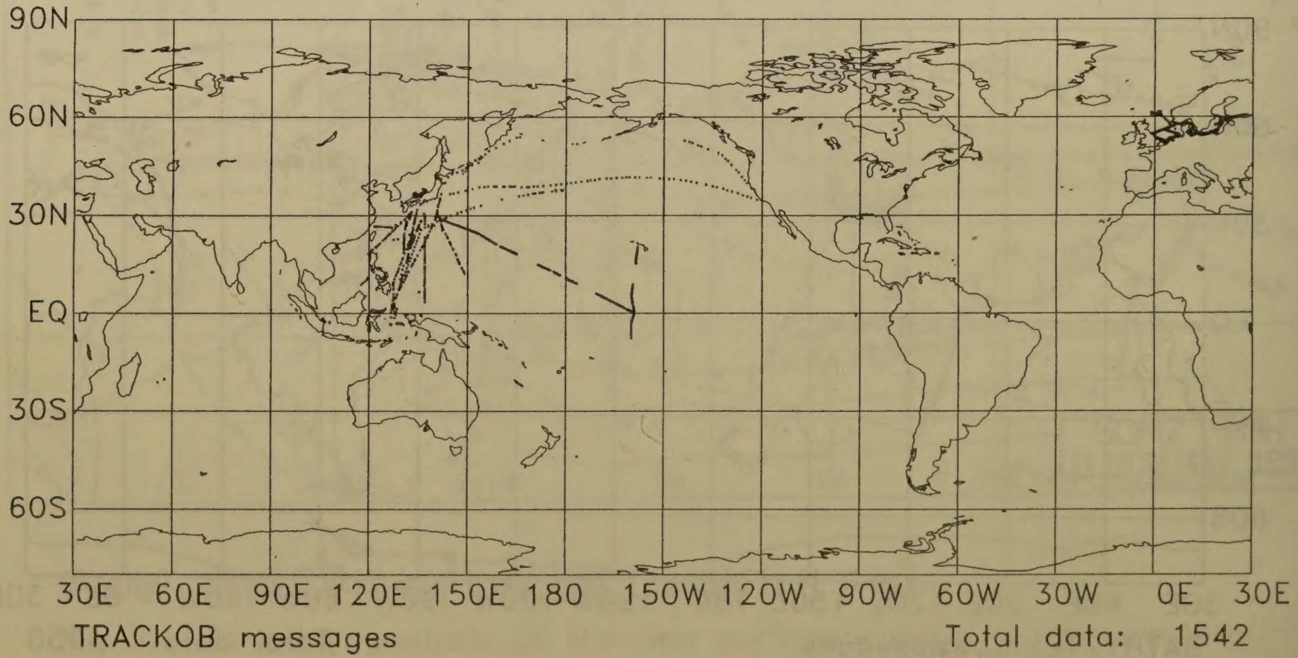




第21-1図　測点分布図(1993年11月)

Fig.21−1 Geographical distribution of SHIP messages (SST data, top) and BATHY/TESAC messages (subsurface temperature data, bottom) for NOV 1993.





第21-2図　測点分布図(1993年11月)

Fig.21-2　Geographical distribution of DRIFTER messages (buoy drift and SST data, top) and TRACKOB messages (ship drift and SST data, bottom) for NOV 1993.

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